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ABSTRACT

This packet of materials was originally intended for participants in a 1991 conference on assistive technology for the disabled. After a detailed listing of the conference schedule, individual sections provide abstracts, biographical sketches, and summaries concerning the following conference topics: blending, computer labs, family, grants and funding, interactive labs, learning, living, playing, and working. Also briefly described are posters presented at the conference, the video theater, and exhibitor displays. Among topics covered are: computer programs for the traumatically brain injured, resources for employment, impact of developmental disability on a family, developing conversational interaction with the "Unicorn Board", the Alliance in Technology Access resource network, seating and mobility, supported employment and assistive technology for the severely disabled, curriculum based computerized measurement, low vision aids, the Technology Related Assistance for Individuals with Disabilities Act, setting up an Assistive Technology Demonstration Center, telecommunication in special education, the Kurzweil Personal Reader, technology and the aging, adventure programming for the physically disabled, computer access for the visually impaired, portable electronic writing aids, augmentative communication, funding, and adapted bikes. (DB)

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TOUCH THE FUTURE

Third Southeast Regional Conference on state-of-the-art assistive technology for persons with disabilities

Hyatt International Convention and Trade Center
April 10-12, 1991
Atlanta, Georgia

CONFERENCE PROCEEDINGS

EC 300 855

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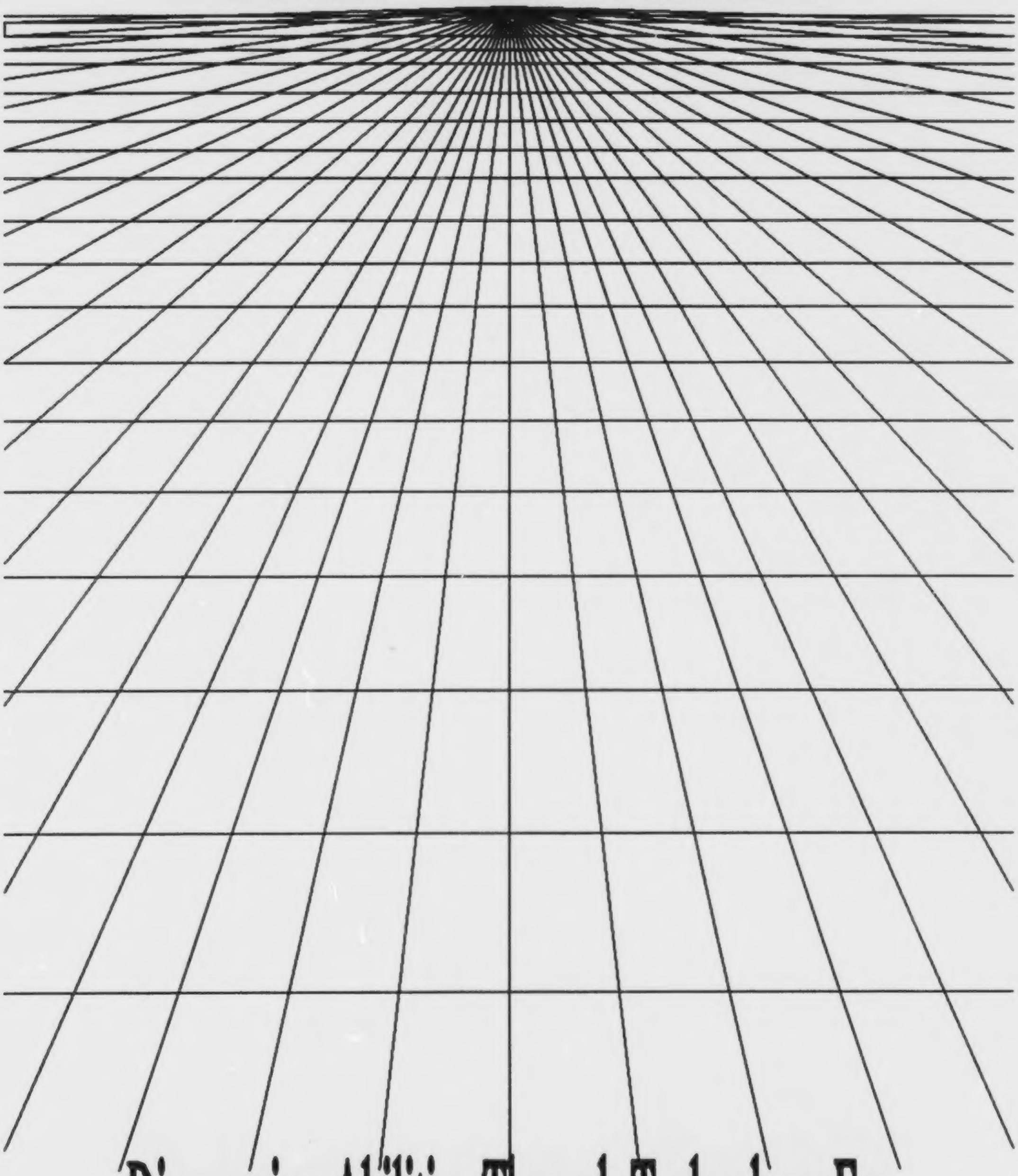
Touch The Future



Discovering Abilities Through Technology For

Living, Learning, Working and Playing

Welcome to All Conference Participants:

On behalf of the Program Committee, I would like to welcome each of you to the **1991 Touch The Future Conference.**

The past two years have been exciting and interesting as we planned for the three days of this Conference. The Program Committee made new friends, learned about innovative creative ideas happening at the grassroots level, listened to what users and potential users said they needed in the area of assistive technology, and brainstormed for "futuristic" approaches to some of our present day problems. Our search for interesting ideas and topics took us coast-to-coast, and on a couple of occasions, to an international perspective.

I sincerely hope that each of you will find one new idea or one new friend at this conference. If you are successful in that endeavor, the Program Committee will have been successful in ***"touching the future"*** of each of you.

Have a wonderful and interesting 1991 Touch The Future Conference.

Sincerely,

Carolyn W. Watkins

Carolyn W. Watkins
Program Committee Chair

Don Kinder
Joe Pullen
Lynn Chui
Bill Tomlin
Margy Conners
Richard Adler
Patty Adamcab
Colleen Duckworth
Mark Johnson
Carol Kelley
Alma Owens
Nancy Wooten

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CONFERENCE OVERVIEW

THIRD SOUTHEASTERN "TOUCH THE FUTURE CONFERENCE"

APRIL 10-12, 1991
PROGRAM AT A GLANCE

WEDNESDAY, APRIL 10, 1991

12:00 Noon	REGISTRATION OPEN (REFRESHMENTS AVAILABLE TILL 6:00 p.m.)
1:00 p.m. to 2:00 p.m.	WELCOME TO TOUCH THE FUTURE AWARD PRESENTATIONS FOR BEST PRACTICES IN ASSISTIVE TECHNOLOGY: Shelley Kaplan, Director of The S.M.A.R.T. Exchange RIBBON CUTTING: Zebe Schmitt, Mistress of Ceremonies Governor's Council on Development Disabilities EXHIBITS OPEN (1:00 p.m. to 7:00 p.m.)
2:00 p.m. to 5:00 p.m.	SPECIAL SESSION I - Environmental Modifications That Enhance The Visual Functioning of Elderly Individuals and Individuals With Low Vision - Larry Rhodes/Gina Adams (Room: Island Suites) SPECIAL SESSION II - LPI: Literacy Programming International - John Adams (Room: Cancun) SPECIAL SESSION III - Futures Panel (Room: Bahamas) a. Ed Roberts b. Roger Weed c. Jim Breene d. Margo Broehl e. William Smith Moderator: Tamara Bibb, Commissioner Rehabilitation Services Administration MEETINGS (Room: Mexico) EXHIBITS OPEN
5:00 p.m. to 6:00 p.m.	BREAK
6:00 p.m. to 7:00 p.m.	RECEPTION: (Sponsored by American Rehab, Handicaps Mobility Systems, Inc., and Mark F. Goodkin & Associates) CASH BAR (FOYER) ENTERTAINMENT: Willie Moody
7:00 p.m. to 9:00 p.m.	PARADE OF EXHIBITORS OPENING EVENTS: Carmen Burns, Anchor Woman for Channel 11's WXIA TV Mistress of Ceremonies BANQUET DINNER MUSIC: Daniel Skandera KEYNOTE ADDRESS: Edward V. Roberts, President of The World Institute on Disability "Power of Technology" (Room: Brussels, Frankfort, Paris)
9:00 p.m.	After Dinner Entertainment/Cash Bar

THURSDAY, APRIL 11, 1991

. . 8:00 a.m.	REGISTRATION EXHIBITS (8:00 a.m. to 7:30 p.m.)				
8:30 a.m. to 10:00 a.m.	A* Meeting the Technology Needs of Florida's Developmentally Disabled Work Force (Room London)	B* Getting Beyond Curb Cuts (Room Brussels)	C* An Evaluation Protocol for Computer Programs in Traumatic Brain Injury (Room Amsterdam)	D* Link-Up with Resources To Find Employment (Room Bermuda)	E* Impact of a Developmental Disability on the Family (Room Bahamas)
10:00 a.m. to 10:30 a.m.	REFRESHMENT BREAK (FOYER) EXHIBITS (FOYER) DOOR PRIZES OFFERED AT ALL BREAKS. MUST BE PRESENT TO WIN.				
10:30 a.m. to 12:00 Noon	A* Supported Employment and the Utilization of Adaptive Technology for Individuals with Severe Disabilities (Room London)	B* Getting Beyond Curb Cuts (Room Brussels)	C* Curriculum Base Measurements: Effects of Computerized Feedback on Instruction and Student Achievement (Room Amsterdam)	D* Low Vision Definition: Services and Aids (Room Bermuda)	E* Parent Panel ——— Technology: A Family's Perspective (Room Bahamas)
12:00 Noon to 1:00 p.m.	LUNCH ON YOUR OWN/EXHIBITS				
1:00 p.m. to 3:00 p.m.	A* From Zero to Sixty in Thirty Six Months ——— The Kurzweil Personal Reader in Personal and Professional Service (Room London)	B* Information and Networking Equals Power and Opportunity (Ed Roberts/June Kailes) (Room Brussels)	C* Technology and the Aging: Exploring A New Frontier (Room Amsterdam)	D* 2:00p.m.-3:00p.m. Adapting the Environment for Independent Living (Room Bermuda)	E* The Search For Answers (Room Bahamas)
3:00 p.m. to 3:30 p.m.	REFRESHMENT BREAK (FOYER) EXHIBITS DOOR PRIZES OFFERED AT ALL BREAKS. MUST BE PRESENT TO WIN.				
3:30 p.m. to 5:00 p.m.	A* Digital Recording Communication Devices and Portable Electronic Writing Aids (Room London)	B* Open Forum: Participants, Not Spectators (Room Brussels)	C* Developing a Directory of Assistive Technology Service Providers ——— Psychoeducational Assessment for and with Augmentative Communication (Room Amsterdam)	D* TeleBraille II: A Second Generation for Communication for People Who are Deaf/Blind ——— Recreation Therapy: An Integral Part of the Ideal Program (Room Bahamas)	E* OPEN
5:00 p.m. to 7:30 p.m.	A* Georgia Handicapped Sportsman, Inc. (Room Bahamas)	B* Expressive Activities to Facilitate Positive Adjustment in Rehabilitative Settings (Room Bermuda)	C* People, Plants and the Therapeutic Environment (Room Jamaica)	D* Wheelchair Controllable Boat Outside of Convention Center, Rear of Hotel	E* Karate Demonstration To Be Announced

THURSDAY, APRIL 11, 1991

. . 8:00 a.m.	**REGISTRATION**				
F* Nurturing Conversational Interaction with the Unicorn Board (Room Frankfort)	**G*** The Alliance for Technology Access: It's Role Nationally and Locally (Room Jamaica)	**H*** Special Session II: LPI: Learning Disabilities Lab (Room Paris IB)	**I*** Principles of Seating and Mobility (Room Paris IB)	**J*** 8:30-Quality of Life Special Friends and Computers 9:00-We Have Something to Say That Makes Us Friends 9:30-Access Independence Day (Room Mexico City)	**K*** OPEN (Room Exhibit Area)
10:00 a.m. to 10:30 a.m.	REFRESHMENT BREAK (FOYER) EXHIBITS (FOYER) DOOR PRIZES OFFERED AT ALL BREAKS. MUST BE PRESENT TO WIN.				
F* Switch Toys to Touch Talkers: Bridging the Gap with Computers (Room Frankfort)	**G*** Choices and Changes: Progress Toward Goals of the "Tech Act" ——— Setting Up an Assistive Technology Demonstration Center (Room Jamaica)	**H*** Special Session II: LPI: Learning Disabilities Lab (Room Paris IB)	**I*** TeleCommunication in Special Education (Room Paris IB)	**J*** 10:30-Environmental Controls & Communication Switches 11:30-Development of Wheelchair Stump Supports (Room Mexico City)	**K*** OPEN (Room Exhibit Area)
12:00 Noon to 1:00 p.m.	LUNCH ON YOUR OWN/EXHIBITS				
F* Adventure Programming for People with Physical Disabilities ——— Fitness is for Everyone (Room Frankfort)	**G*** Tennessee Technology Access Project API 100-407 ——— Kentucky Assistive Technology Service Network (Room Jamaica)	**H*** Computer Access for People Who Are Visually Impaired ——— New Interactive Software for Use with Echo, Power Pad, Touch Window, and Multiple Switch Box (Room Paris IB)	**I*** Computer Lab and Workshop (Room Paris IB)		**K*** * Poster Sessions: (Note under Papers under Friday's schedule.) (Room Mexico City)
3:00 p.m. to 3:30 p.m.	REFRESHMENT BREAK (FOYER) EXHIBITS DOOR PRIZES OFFERED AT ALL BREAKS. MUST BE PRESENT TO WIN.				
F* Leisure Options and Adaptations for Individuals with Severe Physical Impairments (Room Frankfort)	**G*** The Wheel of Funding (Room Bermuda) (Room Jamaica)	**H*** Use of Touch Windows and Touch Window Software (Room Paris IB)	**I*** Adapted Bikes (Room Paris IB)	**J*** 3:30-Mister Roberts (Ed Roberts) 4:30-Georgia Handicapped Sportsman (Room Mexico City)	**K*** OPEN (Room Exhibit Area)

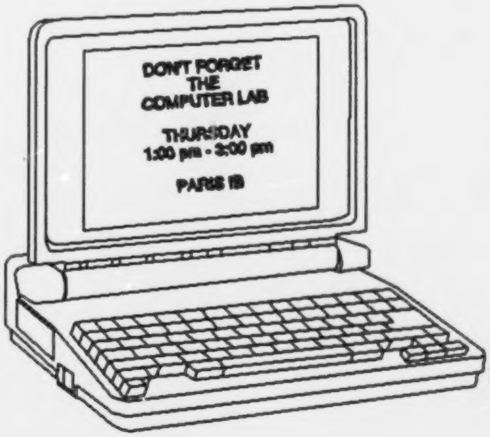
FRIDAY, APRIL 12, 1991

8:00 a.m.	REGISTRATION EXHIBITS (8:00 a.m. - 12:00 Noon)				
8:30 a.m. to 10:00 a.m.	A* Community Based Vocational Instruction for Students Using Augmentative Communication Devices (Room London)	B* Accessibility is More Than A Grab Bar (Continued in Track "G" at 10:30-12:00.) (Room Brussels)	C* Best Bets on Revising and Integrating Services in Augmentative Communication ——— The Training of Special Education Technologists (Room Amsterdam)	D* Electronic Travel Aids for People Who are Blind or Deaf/Blind (Room Bermuda)	E* Parent Computer Users Group (Room Bahamas)
10:00 a.m. to 10:30 a.m.	REFRESHMENT BREAK (FOYER) EXHIBITS (FOYER) DOOR PRIZES OFFERED AT ALL BREAKS. MUST BE PRESENT TO WIN.				
10:30 a.m. to 12:00 Noon	A* Computer Based Training for Office Automation and Customer Service Positions (Room London)	B* Striving to Succeed ——— Beyond the Technology (Room Brussels)	C* The Augmentative and Alternative Communication Specialist in the Public Schools (Room Amsterdam)	D* Hear Our Voices! (Room Bermuda)	E* A Look at Gwinnett County's Center for Special Needs (Room Bahamas)
12:00 Noon	CLOSING CEREMONIES GRAND DRAWING: BY AMERICAN REHAB (EXHIBIT AREA)				

Don't miss Touch The Future's outside exhibits which includes:

- Outdoor Recreation Equipment
- Adaptive Vehicles

(Front and back of the hotel, adjacent to the convention center.)



FRIDAY, APRIL 12, 1991

EXHIBITS (8:00 a.m. - 12:00 Noon)					
F* Movement Exploration for People with Physical Disabilities (Room Frankfort)	G* Expanding Your State's Dollars: Georgia's Technology Trust Fund and Fair (Room Jamaica)	H* Adaptive Devices: From Least Restrictive to Most Restrictive (Room Paris IB)	I* Interactive Videodisc Based English and American Sign Language Glossary ——— Computer Access for Persons with Disabilities (Room Paris IB)	J* Coping with Hearing Impairments (Room Mexico City)	K* OPEN (Room Exhibit Area)
10:00 a.m. to 10:30 a.m.	REFRESHMENT BREAK (FOYER) EXHIBITS DOOR PRIZES OFFERED AT ALL BREAKS. MUST BE PRESENT TO WIN.				
F* Integrating Sports for People with Disabilities Into an Able-Bodied World (Room Frankfort)	G* Accessibility Is More Than A Grab Bar (Continuation of Paper from Track "B", 8:30-10:00.) (Room Jamaica)	H* Using the Dunamis Power Pad with the Adaptive Firmware Card (Room Paris IB)	I* Logical Letter Coding Strategies (Room Paris IB)	J* Model IFSP Process for Infants and Toddlers at Risk (Room Mexico City)	K* OPEN (Room Exhibit Area)
12:00 Noon	CLOSING CEREMONIES GRAND DRAWING: BY AMERICAN REHAB (EXHIBIT AREA)				

*A	Working	(Room: London International Ballroom)
*B	Living	(Room: Brussels)
*C	Learning	(Room: Amsterdam International Ballroom)
*D	Blending	(Room: Bermuda)
*E	Family	(Room: Bahamas)
*F	Playing	(Room: Frankfort International Ballroom)
*G	Grants and Funding	(Room: Jamaica)
*H	Computer Lab	(Room: Paris International Ballroom)
*I	Interactive Lab	(Room: Paris International Ballroom)
*J	Video Theater	(Room: Mexico City)
*K	Poster Sessions	(Room: Exhibit Area/Paris Foyer)

POSTER SESSION (Track K 1:00-3:00)

1. Occupational Therapy: An Innovative Portfolio
2. Institutionalized Adults Discover Abilities Through Database Management
3. Technology and Disability: University at Buffalo

Special Meetings Schedule:

Wednesday, April 10, 1991: Mexico Room
Thursday, April 11, 1991: Cancun Room
Friday, April 12, 1991: Capri I & II

SPECIAL MEETINGS

Special meetings at the Conference will be held in rooms as shown, unless otherwise noted on Announcement Board by the Registration Booth.

Wednesday, April 10, 1991 (Mexico Room)

10:00 a.m. - 12:00 Noon
Blind Services Program Meeting

Thursday, April 11, 1991 (Cancun Room)

9:00 a.m. - 12:30 Noon
Consumer Outreach and Needs Assessment Meetings of Georgia's
Advisory Council on Assistive Technology Resources

(Lunch will be served from 11:30 a.m. - 12:30 p.m. for this group.)

Thursday, April 11, 1991 (Cancun Room)

1:00 p.m. - 4:00 p.m.
State Technology Coordinators Meeting
RSA Regional Office for Region IV

Friday, April 12, 1991 (Capri I & II)

10:00 a.m. - 11:00 a.m.
How to Become a Selected or Adopter Site
The S.M.A.R.T. Exchange

CONFERENCE SCHEDULE

CONFERENCE SCHEDULE

WEDNESDAY - APRIL 10, 1991

12:00 Noon	Registration
1:00 p.m. - 2:00 p.m.	Welcome To "Touch The Future" Award Presentations for Best Practices in Assistive Technology: Shelley Kaplan, Director of The S.M.A.R.T. Exchange Ribbon Cutting: Zebe Schmitt, Mistress of Ceremonies Exhibits Open (1:00 p.m. - 7:00 p.m.)
2:00 p.m. - 5:00 p.m.	Special Sessions I, II, and III

Special Session I:

ABSTRACT BY: GINA ADAMS, LARRY RHODES (Room: Island Suites)

ENVIRONMENTAL MODIFICATIONS THAT ENHANCE THE VISUAL FUNCTIONING OF ELDERLY INDIVIDUALS AND INDIVIDUALS WITH LOW VISION

There is no general prescription for modifying the environment to enhance the visual functioning of low vision individuals. No two individuals have the same type of degree of vision loss, living situation, needs (visual and otherwise), desires and aspirations, etc. Lighting requirements, as well as general functioning, even among individuals with the same eye condition, varies from individual to individual. Only general principles that need to be borne in mind when making adjustments in the environment to enhance visual functioning can be given.

Special Session II:

ABSTRACT BY: JOHN F. ADAMS (Room: Cancun)

LPI: LITERACY PROGRAMMING INTERNATIONAL

Multipath learning is an integrated learning approach for the rapid acquisition of basis literacy skills of reading, writing, speaking, and basic math. It will be able to improve course grades with daily help and enhance self-esteem. LPI's multipath learning uses human voice which accompanies the visual text. It is a multi-sensory, interactive type of instruction. This method allows for independent learning at home and at school whereby, the learner can record his/her own interactive programming in voice and text. It ties in very well with teachers, tutors, and parents who all can help. Most of all, it is effective, affordable help for the learning disabled, dyslexic, ESL (English as a Second Language), and ABE (Adult Basic Education) student. It is hailed as a new tool for teaching structured phonetics, whole language, language experience, critical and creative thinking and process writing.

WEDNESDAY - APRIL 10TH
2:00 p.m. - 5:00 p.m.

SPECIAL SESSION III:

ABSTRACT BY: ED ROBERTS, ROGER O. WEED, JIM BREENE, MARGO BROEHL, WILLIAM SMITH **(Room: Bahamas)**

FUTURES PANEL

As a special attraction, we are pleased to announce a FUTURES PANEL. This interactive panel consists of individuals from the banking, law, business, and religious communities who are progressive and futuristic in their professional communities. Listen to these leaders discuss how legislation such as The Americans with Disabilities Act (ADA) 1990 and the Technology-Related Assistance for Individuals and Disabilities Act of 1988 will affect the areas of banking, law, business, and religion in the new decade.

2:00 p.m. - 5:00 p.m.	Meetings (Room: Mexico City) Exhibits Open
5:00 p.m. - 6:00 p.m.	Break
6:00 p.m. - 7:00 p.m.	Reception (Sponsored By: American Rehab, Handicaps Mobility Systems, Inc., and Mark F. Goodkin & Associates.) Cash Bar (Foyer) Entertainment: Willie Moody
7:00 p.m. - 9:00 p.m	Parade of Exhibitors Opening Events: Carmen Burns, Mistress of Ceremonies, Anchor Woman for Channel 11's WXIA TV Banquet Dinner Music: Daniel Skandera Keynote Address: Edward V. Roberts, President of The World Institute on Disability "Power of Technology" (Room: Brussels, Frankfort, Paris)
9:00 p.m.	After Dinner Entertainment/Cash Bar

THURSDAY - APRIL 11, 1991

8:00 a.m. - REGISTRATION

8:30 a.m. - 10:00 a.m.

ABSTRACT BY: PATTI BARRETT **(Room: London)**

MEETING THE TECHNOLOGY NEEDS OF FLORIDA'S DEVELOPMENTALLY DISABLED WORK FORCE

This video demonstrates low-tech assistive technology available through the Division of Vocational Rehabilitation and the Florida Developmental Disabilities Planning Council, which provides services and products to people with developmental and physical disabilities through Rehabilitation Engineering.

The video shows clients using adapted devices to accomplish workshop contracts, to perform on janitorial and lawn care work crews and enclaves, to fabricate jewelry in preparation for supported employment, and finally peer training without adapted equipment.

ABSTRACT BY: JUNE ISAACSON KAILES, PAT PUCKETT **(Room: Brussels)**

GETTING BEYOND CURB CUTS

June Isaacson Kailes has been active as a disability rights advocate and program developer in the independent living movement since the late sixties. In this workshop, Ms. Kailes will share the delivery model of consumer services in the past. Ms. Kailes will continue by looking ahead to the preferred future and highlight what it should be like to have a consumer responsive system. Also to be discussed is professional/consumer relationships and the importance of a partnership which includes responsible consumer involvement. Another area that will be covered is strategies and tactics to make that which is available, become that which is attainable. Ms. Kailes will offer some cautions to pitfalls and a consumer criteria for evaluating Assistive Devices.

This material will be presented in two consecutive sessions. You may attend either or both.

Thursday, April 11th
8:30 a.m. - 10:00 a.m.

ABSTRACT BY: PATRICIA HIGGINS, BONNIE SCHAUDE **(Room: Amsterdam)**

AN EVALUATION PROTOCOL FOR COMPUTER PROGRAMS IN TRAUMATIC BRAIN INJURY

Volumes of computer software for cognitive intervention are currently available. Often these programs are costly and may be limited in usefulness for the TBI client. A systematic method of evaluating the serviceability and flexibility of these programs in the clinic is necessary. The purpose of this presentation, therefore, is to provide participants with a practical evaluation protocol in selecting software and demonstrating the application of this tool. Interaction with an array of computer programs will be available.

ABSTRACT BY: GAIL MOORE, LES JANISE, Ph.D.,
VAN M. YOUNGINER, LINDA CARLSON **(Room: Bermuda)**

LINK-UP WITH RESOURCES TO FIND EMPLOYMENT

This workshop will teach consumers and professionals how to find career, training, and assistive technology resources needed for employment. The Georgia Career Information System uses a microcomputer-based approach to helping job seekers identify a career direction. This system will be demonstrated. Because the workshop is designed to network consumers with these resources, materials will be distributed at the workshop and are not included in the Conference Proceedings.

ABSTRACT BY: LORNA L. BENBENISTY **(Room: Bahamas)**

IMPACT OF A DEVELOPMENTAL DISABILITY ON THE FAMILY

This paper/presentation will highlight the impact of a developmental disability on the family and its individual members. Any handicapping condition may have a general impact on several family subsystems, including marital, parental, and sibling units. The potential for positive outcomes, as well as potential stressors, is highlighted.

Thursday, April 11th
8:30 a.m. - 10:00 a.m.

ABSTRACT BY: GERALDINE S. MINGES, LILY NALTY PATTY QUATTLEBAUM (Room: Frankfort)

NURTURING CONVERSATIONAL INTERACTION WITH THE UNICORN BOARD

The initiation of conversation and the development of turn-taking skills are basic to communication, but these skills do not come easily to the individual who has severe communication deficits along with other physical limitations. This presentation will focus on methods to increase interaction through the script and dialogue approach, which provides the opportunity for turn-taking within a structured activity. The rationale, design and implementation of the script/dialogue approach using the Unicorn Board will be described.

ABSTRACT BY: LYNN CHIU, PAM HARNDEN (Room: Jamaica)

THE ALLIANCE FOR TECHNOLOGY ACCESS: IT'S ROLE NATIONALLY AND LOCALLY

The ATA (Alliance in Technology Access) started in 1987 with 11 resource centers. It was than called NSEA (National Special Education Alliance.) The number will soon exceed 50, including centers in nearly all 50 states. Each center in the Alliance operates autonomously under a separate name and has its own area of expertise. This session will give you an overview of ATA on a national level and a more specific look at the ATA centers in the Southeast. Currently, this includes centers in Birmingham, Alabama; Huntsville, Alabama; Little Rock, Arkansas; Orlando, Florida; Conyers, Georgia; Covington, Kentucky; Louisville, Kentucky; New Orleans, Louisiana; Charlotte, North Carolina; Jackson, Tennessee; Knoxville, Tennessee; and Nashville, Tennessee.

ABSTRACT BY: JOHN ADAMS (Room: Paris IB)

LEARNING DISABILITIES LAB

(Functional Application from Wednesday Session)

Multipath learning is an integrated learning approach for the rapid acquisition of basic literacy skills of reading, writing, speaking, and basic math. It will be able to improve course grades with daily help and enhance self-esteem. LPI's multipath learning uses human voice which accompanies the visual text. It is a multi-sensory, interactive type of instruction. This method allows for independent learning at home and at school whereby the learner can record his/her own interactive programming in voice and text. It ties in very well with teachers, tutors, and parents who all can help. Most of all, it is effective, affordable help for the learning disabled, dyslexic, ESL (English as a Second Language), and ABE (Adult Basic Education) student. It is hailed as a new tool for teaching structured phonetics, whole language, language experience, critical and creative thinking and process writing.

Thursday, April 11th
8:30 a.m. - 10:00 a.m.

ABSTRACT BY: SUSAN JOHNSON TAYLOR **(Room: Paris IB)**

PRINCIPLES OF SEATING AND MOBILITY

Seating and mobility technologies are powerful tools. An appropriate seated position can augment a client's skill and abilities as well as provide a means to extend treatment goals beyond actual hand-on treatment sessions. Seating is usually a prerequisite for evaluation for access to other technology devices. Mobility devices offer freedom of movement and independence to an otherwise dependent individual. Professionals involved in the seating/mobility process, regardless of whether or not they actually evaluate for a fit the devices, must be knowledgeable of the factors which contribute to that process.

It should be noted that seating is not simply a device, but an ongoing process-without appropriate evaluation and fitting, clear communication between the client/family and team members, and close follow-up the device can be ineffective and even harmful. Overall goals for seating devices include: to normalize abnormal tone; decrease the influence of primitive postural reflexes; prevent/delay/accommodate deformity; prevent pressure sores; improve physiological function; maximize function; and enhance overall quality of life.

The seating device must be mounted on some type of wheeled base, which is either powered or manual. These bases must be matched to the client's individual needs and life circumstances. As a guideline, clients who are unable to efficiently propel a manual chair (indoors and outdoors) are considered for powered mobility.

This session will provide an overview of the factors which contribute to developing a prescription for seating mobility devices. Case studies will be used to illustrate this process.

VIDEO THEATER

(Room: Mexico City)

VIDEO ON: QUALITY OF LIFE

A general approach to problem solving for recreation and leisure for those with disabilities.

VIDEO ON: SPECIAL FRIENDS AND COMPUTERS

This video introduces ways to adapt the computer for use with preschoolers.

Thursday, April 11th
8:30 a.m. - 10:00 a.m.

Video Theater Continued:

VIDEO ON: WE HAVE SOMETHING TO SAY

Children ranging in ages from 17 months to 22 years are shown using computers and assistive devices to communicate successfully.

VIDEO ON: THAT MAKES US FRIENDS

This video stars a young boy with cerebral palsy who uses a wheelchair, an augmentative communication device and participants in the typical activities of a 5-8 year old.

VIDEO ON: ACCESS

This video illustrates the many users of the computer in increasing the quality of life for children and adults with disabilities.

VIDEO ON: INDEPENDENCE DAY

An introduction to the field of adaptive technology. This video relates first-hand how technology can literally change a life.

THURSDAY - APRIL 11, 1991

10:00 a.m.-10:30 a.m. REFRESHMENT BREAK (FOYER)
EXHIBITORS (FOYER)

10:30 a.m.- 12:00 Noon

ABSTRACT BY: BRENDA CARSON **(Room: London)**

SUPPORTED EMPLOYMENT AND THE UTILIZATION OF ASSISTIVE TECHNOLOGY FOR SEVERELY HANDICAPPED INDIVIDUALS

The purpose of this seminar is to examine the theory, methodology and model of supported employment for severely physically disabled persons. The seminar will provide a background overview and discuss the critical role of technology in the employability of persons with sever physical disabilities. Ms. Carson will review current issues,innovation, and information relevant to successful employment. She will also explore the use of assistive devices and technology both on and off the job and in daily life. It will be an excellent training opportunity for people who are interested in providing supported employment services.

ABSTRACT BY: JUNE ISAACSON KAILES, PAT PUCKETT **(Room: Brussels)**

GETTING BEYOND CURB CUTS

June Isaacson Kailes has been active as a disability rights advocate and program developer in the independent living movement since the late sixties. In this workshop, Ms. Kailes will share the delivery model of consumer services in the past. Ms. Kailes will continue by looking ahead to the preferred future and highlight what it should be like to have a consumer responsive system. Also to be discussed is professional/consumer relationships and the importance of a partnership which includes responsible consumer involvement. Another area that will be covered is strategies and tactics to make that which is attainable. Ms. Kailes will offer some cautions to pitfalls and a consumer criteria for evaluating Assistive Devices.

This material will be presented in two consecutive sessions. You may attend either or both.

Thursday, April 11th
10:30 a.m. - 12:00 Noon

ABSTRACT BY: KEITH W. WHINNERY, YVETTE MARRIN (Room: Amsterdam)

CURRICULUM-BASED MEASUREMENT: EFFECTS OF COMPUTERIZED FEEDBACK ON INSTRUCTION AND STUDENT ACHIEVEMENT

This session presents findings from a five year research program, in which computer applications to facilitate curriculum-based measurement (CBM) have been developed and in which effects of those computer applications with learning disabled and low achieving students have been assessed. Specific computerized measurement and evaluation procedures that facilitate teachers' implementation of CBM will be demonstrated. The session is divided into four segments: measurement system, qualitative feedback, advice, and student feedback.

ABSTRACT BY: WENDY MONS (Room: Bermuda)

LOW VISION: DEFINITION, SERVICES, AND AIDS AVAILABLE

No one has an accurate number of the amount of low vision persons in the United States today. According to a California study, there were approximately six million in 1986, the needs of this population will be addressed. Participants in this workshop will better understand the mysteries of low vision; the services and resources available; and the hi/low tech items and/or tricks that help. Indications and applications will be discussed for the entire population from infant, to elderly.

ABSTRACT BY: DR. JANICE STRANG, HEATHER BROOKS (Room: Bahamas)

PARENT PANEL

At age five, Heather's adaptive equipment consisted of a safety travel chair. After two years at Coralwood, Heather had demonstrated the ability to work with switches and to use scanning to control a Light Talker. She also demonstrated the ability to control a Powerchair with her foot. Dr. Strang learned first hand the importance of having a vendor who is willing to work with a family and make changes in adaptive equipment as the need arises to assure optimal positioning and comfort. Other adaptive equipment in use in Heather's home are a potty chair, a TLC bath chair and a Tumbleform mobile floor sitter.

Thursday, April 11th
10:30 a.m. - 12:00 Noon

ABSTRACT BY: CAROL KELLEY, CHRISTY KELLEY **(Room: Bahamas)**

TECHNOLOGY: A FAMILY'S PERSPECTIVE

Speech impaired people encounter daily frustrations. Communication is difficult and requires time and patience. Overcoming communication barriers can be slow. The disabled require support from family and professionals. This extra support may be stressful on the family. Professional help and equipment can be expensive. Technology has offered much to the speech impaired. Computer programs teach and reinforce skills, reward achievements, and provide a more accurate measure of a disabled persons intelligence. Working with computers also allows independence for those who need freedom from the pressures and distractions caused by constant supervision. Although technological advancement has aided the progress of the speech impaired, there is still room for improvement.

ABSTRACT BY: JAMES P. PIROLI, GLENDA EVANS **(Room: Frankfort)**

SWITCH TOYS TO TOUCH TALKER: BRIDGING THE GAP WITH COMPUTERS

Participants will review decision making matrices for identifying candidates for non-oral communication. Sequential development of skills leading to independent communication will be discussed with emphasis on use of the microcomputers, Adaptive Firmware Card and Unicorn Expanded Keyboard to bridge the gap between simple cause-effective relationship and interactive communication. Adapted commercially available and clinician developed will be demonstrated. Hands on experience with various adaptive devices will be provided. Experienced clinicians will be available to answer questions.

ABSTRACT BY: PATRICIA BEATTIE **(Room: Jamaica)**

CHOICES AND CHANGE: PROGRESS TOWARD GOALS OF THE "TECH ACT"

A majority of the 50 States, several model projects and two national studies now have been funded under P.L. 100-407, the Technology-Related Assistance for Individuals With Disabilities Act of 1988. This presentation will report progress being made across the country toward the "systems change" necessary for development of consumer-responsive, comprehensive assistive technology services. Included will be updates on innovative approaches to increased funding, public awareness, service delivery and evaluating consumer satisfaction.

Thursday, April 11th
10:30 a.m. - 12:00 Noon

ABSTRACT BY: LAWRENCE H. TRACHTMAN, LINDA D. LAKE **(Room: Jamaica)**

SETTING UP AN ASSISTIVE TECHNOLOGY DEMONSTRATION CENTER

The Center for Rehabilitation Technology Services (CRTS) has developed a technology demonstration center (TDC) which serves as a resource for disabled individuals, their family members, health care professionals and other interested persons on what is available in assistive aids and devices. The functional components of the TDC are assistive aids and devices, adaptive environments and demonstration modules. The three phases used to set up the TDC - planning, implementation and utilization will be discussed.

ABSTRACT BY: JOHN ADAMS **(Room: Paris IB)**

LEARNING DISABILITIES LAB

(Functional Application of Wednesday Session)

Multipath learning is an integrated learning approach for the rapid acquisition of basic literacy skills of reading, writing, speaking, and basic math. It will be able to improve course grades with daily help and enhance self-esteem. LPI's multipath learning uses human voice which accompanies the visual text. It is a multi-sensory, interactive type of instruction. This method allows for independent learning at home and at school whereby the learner can record his/her own interactive programming in voice and text. It ties in very well with teachers, tutors, and parents who all can help. Most of all, it is effective, affordable help for the learning disabled, dyslexic, ESL (English as a Second Language), and ABE (Adult Basic Education) student. It is hailed as a new tool for teaching structured phonetics, whole language, language experience, critical and creative thinking and process writing.

ABSTRACT BY: DON KINDER, JOE PULLEN **(Room: Paris IB)**

TELECOMMUNICATION IN SPECIAL EDUCATION

This session will provide knowledge of information and resources that are available at both educators and individuals fingertips via computerized telecommunications. Topics will include hardware, software, terminology, and demonstrations of various telecommunications uses of the computer available to persons in special education.

Thursday, April 11th
10:30 a.m. - 12:00 Noon

VIDEO THEATER

ABSTRACT BY: THOMAS C. BURNS (Room: Mexico City)

OUTLINE
VIDEO PRESENTATION ON
ENVIRONMENTAL CONTROL & COMMUNICATION SWITCHES

This video presentation provides information on one of the key areas of difficulty in interfacing challenged individuals with environmental control and/or communication devices; switch assessment. Many professional responsible for switch assessment have not been provided with certain electronics and electro-mechanical fundamentals that permit technology available. This presentation provides information on the basic commonality of all switches; cognitive, sensory, and motor assessment of switch needs; and follow-up techniques.

ABSTRACT BY: DIANE WHITEHOUSE (Room: Mexico City)

DEVELOPMENT OF WHEELCHAIR STUMP SUPPORTS FOR LOWER LIMB AMPUTEES

As anyone involved with amputees is aware, the need to keep the wheelchair-bound lower limb amputee's residual stump extended and sometimes elevated can be a problem. Various devices now in use are often awkward, unsafe or costly.

This need was recognized, addressed and solved with the co-operative efforts of an adult seating program and a wheelchair manufacturer, by a design that will be incorporated into their new wheelchair line as an option that may be ordered.

THURSDAY - APRIL 11, 1991

12:00 Noon-1:00 p.m. LUNCH ON YOUR OWN/EXHIBITS

1:00 p.m.-3:00 p.m.

ABSTRACT BY: BASIL LUCAS, SALLY DORMINEY, ANDREA SCHOEN, SUSAN WEEKS (Room: London)

FROM ZERO TO SIXTY IN THIRTY-SIX MONTHS

"From Zero to Sixty in Thirty-Six Months" will assume the format of a panel discussion. Participants will be blind Rehabilitation Services clients and their computer instructor. They will describe their experiences in becoming equipped, trained and employed in the computer field.

ABSTRACT BY: PHILIP DILLARD, PHIL REED, DEANA WALLACE (Room: London)

THE KURZWEIL PERSONAL READER IN PERSONAL AND PROFESSIONAL SERVICE

The Xerox/Kurzweil Personal Reader reads print and typed material accurately and in synthetic speech that sounds almost human. The operator may quickly and easily choose to hear the text read in any one of nine different voices, at rates ranging from 100 to 350 words per minute, and at preferred degrees of intonation. He may back-up, go forward, or mark passages for review. He may ask the machine to spell words or read punctuation marks. He may connect the equipment to send or receive material to and from computers and printers. The beginner will experience frustrations of first with poorly printed text, strangely spaced materials, pictures, and abbreviations, but practice will lead him or her to a lasting and passionate friendship with the most helpful reader in the world.

Thursday, April 11th
1:00 p.m. - 3:00 p.m.

ABSTRACT BY: JUNE ISAACSON KAILES, EDWARD ROBERTS (Room: Brussels)

INFORMATION AND NETWORKING EQUALS POWER AND OPPORTUNITY

The first step in developing a position or starting a project is to access information and people. Not all information is clear and concise. It's not always who you know or what you know, but a little of both! **PICK A SUBJECT. ANY SUBJECT**, your school, job, favorite agency, family or hobby. No matter what the subject, chances are that Ed or June know something that may be useful.

Identifying persistent obstacles, unfair treatment or lack of support are traditional advocacy issues. A long tradition of citizen involvement has produced a wide range of techniques to achieve advocacy goals. Instead of spending a lot of time trying to locate more information about these techniques, attend this networking session. **ASK, SHARE OR JUST LISTEN.**

ABSTRACT BY: MARCIA R. NUNNALLY (Room Amsterdam)

TECHNOLOGY AND THE AGING: EXPLORING A NEW FRONTIER

Senior adults represent the fastest growing segment of the United States population. Treatment philosophies and modalities are changing to provide state-of-the-art therapy and rehabilitation for older individuals with disabilities. This presentation will suggest a model of service delivery for use in long term care settings, including hardware and software recommendations. Implications of telecommunications and electronic support groups for patients and families will be considered. Idea sharing will be encouraged from all participants.

ABSTRACT BY: LARRY G. WILSON (Room: Bermuda)
2:00-3:00

ADAPTING ENVIRONMENTS FOR INDEPENDENT LIVING

The Hi-Hope Service Center, a sponsored program by the Gwinnett County Association for Retarded Citizens, Inc., has had a major role in facilitating community integrated services for people with developmental disabilities. This presentation describes the development and implementation of an interdisciplinary model for adapting an individual's environment to facilitate increased employment and independent living opportunities.

Thursday, April 11th
1:00 p.m. - 3:00 p.m.

ABSTRACT BY: GINNY YOUNG, EDWARD YOUNG, MELODY THOMASON **(Room: Bahamas)**

THE SEARCH FOR ANSWERS

Ashli was adopted at three and one half months, but obvious development delay became noticeable at one year. Seeking the best medical help possible and accepting retardation, we began years of physical and speech therapy. Ashli could not communicate and at that time, no genuine help was available in Georgia. Augmentative Communication was unheard of in North Georgia.

In August, 1989, we saw Dr. Carolyn Watkins for evaluation. From her recommendation we saw: Dr. Daniel Gottlieb, who discovered and corrected visual problems with a prism system of glasses and Dr. Milagros Corderas who made recommendations with Occupational Therapy. We also purchased an Intro-Talker and a computer. Much progress has been made. no We have prisms in glasses and an elevated work space and several recommendations for Occupational Therapy. Ashli began working with an Intro-Talker and the computer. Ashli has made more progress in the past year than in several years combined. We do not have all the answers, but finally we have a plan and a team working together to carry it out.

I am here because I know Augmentative Communication works. I have seen the results. We are going into a new decade with wonderful technology that could help many people such as Ashli, but we must get the word out and people must be educated in this area.

ABSTRACT BY: MIKE HUFSTETLER **(Room: Frankfort)**

ADVENTURE PROGRAMMING FOR PEOPLE WITH PHYSICAL DISABILITIES

This presentation will cover the scope of adventure programming for the physically disabled as it presently exists. It will begin with a discussion of the definition of adventure and the phsycological components that create the feeling of adventure in the human spirit. The role of adventure programming in therapeutic recreation and its benefits to participants will also be examined.

The variety of adventure programs, both high and low risk, being offered to the physically disabled and the program providers will be covered. A discussion on starting an adventure program, safety issues and liability concerns will also be dealt with.

Thursday, April 11th
1:00 p.m. - 3:00 p.m.

ABSTRACT BY: BETH ANN ROSENBERG **(Room: Frankfort)**
JANALEE REINEKE LYTH

FITNESS IS FOR EVERYONE

Therapists have unique opportunities to enhance rehabilitation for the elderly and physically challenged, by mainstreaming their clients into traditional community aerobic and fitness programs.

ABSTRACT BY: DR. MICHAEL HANNUM, WANDA WILLIS **(Room: Jamaica)**

TENNESSEE TECHNOLOGY ACCESS PROJECT: A P. L. 100-407 INITIATIVE

Tennessee is one of 22 states currently funded to implemented the provisions and principles of the Technology-Related Assistance for Individuals with Disabilities Act of 1988 (P.L. 100-407). Our presentation will review the application process, then focus on our project's goals and objective, to include our comprehensive assistive technology delivery system. Technology devices and services are needed in all states. To increase to probability of attaining such neighboring state must cooperate and collaborate. This session will attempt to facilitate such articulation and bonding.

ABSTRACT BY: JANICE WEBER, DAVE MATHEIS **(Room: Jamaica)**

KENTUCKY ASSISTIVE TECHNOLOGY SERVICE NETWORK

This paper describes the efforts of the Kentucky Assistive Technology Services (KATS) Network to develop a statewide information system concerning assistive technology. This effort includes the establishment of an electronic bulletin board that will connect consumers, service providers and other interested parties to each other and to a national information center via an information center in each of Kentucky's 120 counties. This paper will also describe concurrent collaborative efforts taking place with other sate agencies and advocacy groups to ensure the widest possible distribution of the information system.

Thursday, April 11th
1:00 p.m. - 3:00 p.m.

ABSTRACT BY: BETSY WYATT **(Room: Paris IB)**

COMPUTER ACCESS FOR PEOPLE WHO ARE VISUALLY IMPAIRED

Computer Access for the visually impaired is a presentation demonstrating how various students with visual impairments ranging from 20/200 vision to totally blind can use the computer to enhance their education and their daily lives. The students will use varying screen display sizes, digitized speech, and both enlarged print and braille all of which is generated by the students via the computer.

ABSTRACT BY: CAROLINE MUSSELWHITE, SHERRY LOWRY, PATTI KING-DeBAUN, SHARON MEEK **(Room: Paris IB)**

NEW INTERACTIVE SOFTWARE FOR USE WITH THE ECHO, POWER PAD, TOUCH WINDOW, AND MULTIPLE SWITCH BOX

This session provides a look at a variety of new software developed to enhance communication skills in children with severe disabilities. The software includes games, books, songs and rhythms, and dialogues. Free software samples provided.

COMPUTER LAB AND WORKSHOP **(Room: Paris IB)**

POSTER SESSIONS

(Room: Mexico City)

ABSTRACT BY: MICHELLE W. EDMONSON, JOHN ABNEY, RILEY HAWKINS MICHAEL DANIELS, SHELIA MILLER,

OCCUPATIONAL THERAPY: AN INNOVATIVE PORTFOLIO

From the polio days at Warm Springs, to current research and technology endeavors at Roosevelt Warm Springs Institute for Rehabilitation, OT's have been in a unique position to serve as a bridge between clients and technological advances. During the OT client evaluation and treatment processes, specific challenges present themselves repeatedly. The OTS has chosen to problem-solve several of these recurring challenges through new research and product development. Our portfolio includes four innovative devices presently being researched and successfully utilized with our client population.

Thursday, April 11th
1:00 p.m. - 3:00 p.m.

ABSTRACT BY: SHARENE LOWERY SMOOT **(Room: Mexico City)**

INSTITUTIONALIZED ADULTS DISCOVER ABILITIES THROUGH DATABASE MANAGEMENT

This paper describes an ongoing five year vocational education program to introduce computer skills to multi-handicapped and institutionalized adults through database management. Successful subjects had diagnoses of varying severe or multiple disabilities including mental illness and moderate retardation. The only preliminary skills needed were the ability to press one key at a time, to match upper and lower case letters and numerals, and to copy in a left to right sequence. The end result was the production of mailing labels for in-house and commercial clients. Participants were paid for their work on a piecework basis.

ABSTRACT BY: JOSEPH P. LANE, WILLIAM C. MANN **(Room: Mexico City)**

TECHNOLOGY AND DISABILITY: UNIVERSITY AT BUFFALO

Three programs at the University of Buffalo address technology and disability:

1. The Center for Therapeutic Applications of Technology conducts sponsored research, service and training projects.
2. Editorial direction over a new journal titled, Technology and Disability by Andover Medical Publishers, Inc.
3. Newly initiated graduate-level education and research opportunities in rehabilitation and disability. Information on the three programs is available upon request.

THURSDAY - APRIL 11, 1991

3:00 p.m.-3:30 p.m. REFRESHMENT BREAK (FOYER)
EXHIBITS (FOYER)

3:30 p.m.-5:00 p.m.

ABSTRACT BY: KENNETH P. WHITLEY **(Room: London)**

DIGITAL RECORDING COMMUNICATION DEVICES

Augmentative communication devices provide a voice for nonspeaking persons. However, a device may be rejected due to the "artificial" sounding voice or to lengthy, complex programming procedures. This presentation will examine four new digital recording communication devices (Zygo's Parrot, Parrot-JK/Steeper-JK, Macaw/ScanMacaw, and Secretary) which produce true human speech and offer simple, quick programming procedures.

ABSTRACT BY: KENNETH P. WHITELY **(Room: London)**

PORTABLE ELECTRONIC WRITING AIDS

Many students and adults with physical disabilities are unable to fully participate in educational, vocational, and interactive activities because they cannot write. This presentation will examine four new direct selection, portable electronic writing aids, several of which are capable of speech output (Zygo's Notebook II, Talking Notebook II, Secretary, and QED Scribe).

ABSTRACT BY: JENNY LANGLEY, GORDON RICHMOND, **(Room: Brussels)**
TAMI HASLAM, ANTHONY CUNNINGHAM,
LEE ANN PENDERGRASS, JOY UPCHURCH, KATE GAINER

PARTICIPANTS, NOT SPECTATORS: OPEN FORUM

Participants on the Open Forum panel will talk about some of their personal experiences, needs and plans. They are not helpless victims/patients who have no control over their own destiny, nor are they passive recipients of charity and services. They are self advocates who are shaping the future. Members of the panel represent people with hearing, vision, mobility and speech impairments. Members of the audience will have the opportunity to ask the panel questions.

THURSDAY, APRIL 11TH
3:30 p.m. - 5:00 p.m.

ABSTRACT BY: ANTHONY J. LANGTON, LINDA D. LANE (Room: Amsterdam)

DEVELOPING A DIRECTORY OF ASSISTIVE TECHNOLOGY SERVICE PROVIDERS

Identifying and classifying providers of assistive technology is an important component to any service delivery system. The Center for Rehabilitation Technology Services has developed a directory of service providers for South Carolina. The approach used has been documented and designed for easy replication by programs in other areas. Samples of questionnaires, formats of the directory and insights in developing a functional database are provided.

ABSTRACT BY: DR. STEVEN RAY (Room: Amsterdam)

PSYCHOEDUCATIONAL ASSESSMENT FOR AND WITH AUGMENTATIVE COMMUNICATION

This presentation will provide valuable information about the methods, materials and processes used in the psychoeducational assessment of current or protection augmentative communication device users. The information include discussions and examples of methods and will include discussions and examples of methods and materials for initial estimation of cognitive functioning prior to augmentation. Instrumentation for functioning formal assessment will also be discussed. Emphasis will be placed on the assessment of preadolescent children.

ABSTRACT BY: VINCENT J. RAPPA (Room: Bahamas)

TELEBRAILLE II: A SECOND GENERATION FOR COMMUNICATION FOR PEOPLE WHO ARE DEAF-BLIND

The TeleBraille II is the successor to an earlier system designed jointly by the Helen Keller National Center for Deaf-Blind Adults and Telesensory, Inc. for face-to-face, telephone and computer communication by a person who is deaf-blind. The system employs both a 20 cell paperless braille display and a 40 character visual display, each with appropriate keyboards for input. A communication device like TeleBraille offers significant improvement in independent living, education and vocational goals set by deaf-blind people.

THURSDAY, APRIL 11TH
3:30 p.m. - 5:00 p.m.

ABSTRACT BY: DAN LIEBOWITZ **(Room: Bahamas)**

RECREATION THERAPY: AN INTEGRAL PART OF AN IDEAL PROGRAM

Recreation Therapy is an integral part of an ideal program because of its built in components of motivation and enjoyment during the therapy process. Examples include swimming, bowling, roller-skating, horseback riding and challenge courses. Participation in these activities, the amount of which is determined by the individual, enables each person to learn to trust his/her physical and emotional self and support and encourage others. The Presentation will include video tapes and questions will be encouraged.

ABSTRACT BY: ELLEN BROACH **(Room: Frankfort)**

LEISURE OPTIONS AND ADAPTIONS FOR INDIVIDUALS WITH SEVERE PHYSICAL IMPAIRMENTS

This session is designed to increase the participants knowledge of leisure options and equipment adaptations for individuals with severe physical impairments. The discussion covers various options including hunting, rifling, fishing, camping, travel, aquatics, scuba, dance music, drama, art, computer keyboard, video games, community involvement, photography blow darts and more. The opportunity for hands on application with equipment will also be provided to participants.

ABSTRACT BY: SHELLEY KAPLAN **(Room: Bermuda and Jamaica)**
BONNIE WEBB

THE WHEEL OF FUNDING

Program staff and the consumers they serve are often faced with frustration when seeking funding for assistive technology services and devices. This frustration occurs in all service areas and across all age groups. At present, clearly defined reimbursement practices in state, federal, and private insurance do not exist, leaving discretionary decisions in the hands of the individual reviewing the reimbursement claim. Organizations have an obligation to guide individuals through this process to guarantee the procurement of assistive devices and services to enhance independence and productivity at home, school, work and in the community. Assistance in this area is therefore, a necessary and instrumental service in any comprehensive organization which utilizes technology.

THURSDAY, APRIL 11TH
3:30 p.m. - 5:00 p.m.

THE WHEEL OF FUNDING CONTINUED:

This session will present an overview of the common issues critical to funding assistive technology in an interactive game format. Participants will be alerted to the most frequently reported excuses used in the denial of reimbursement claims and be provided with strategies for winning at the game of funding assistive technology services.

ABSTRACT BY: GALE SEVENER **(Room: Paris IB)**

USE OF TOUCH WINDOWS AND TOUCH WINDOW SOFTWARE

Use of the Touch Window and Touch Window Software is a presentation demonstrating how to use this touch sensitive input device on the Apple II Series of computers to work with preschool through 3rd grade handicapped students. Included in the session will be the use of several authoring software packages and the use of digitized speech.

ABSTRACT BY: GLEN HODGES **(Room: Paris IB)**

ADAPTED BIKES

Glen Hodges has, over the last five years, made riding a bike possible for a number of children for whom that experience had been impossible. Mr. Hodges works with parents and therapists to come up with the right designs. He has made adaptation in a variety of ways. Glen will have a variety of bikes on display and will be available to discuss designs and answer questions. He will have a short video of some of the kids in action.

VIDEO THEATER

(Room: Mexico City)

VIDEO ON: MISTER ROBERTS (ED ROBERTS)

Taken from a 60 minutes; our keynote speaker discusses his philosophy toward ability and disability.

THURSDAY, APRIL 11TH
3:30 p.m. - 5:00 p.m.

ABSTRACT BY: ZEKE ISAACS **(Room: Mexico City)**

GEORGIA HANDICAPPED SPORTSMEN

Zeke Isaacs, president, will talk about the purpose of the Georgia Handicapped Sportsmen and its events. He will highlight a video demonstrating deer and turkey shoots, skeet and trap shoots, and fishing.

THURSDAY - APRIL 11, 1991

5:00 p.m. CASH BAR
(CONVENTION AREA)

5:00 p.m.-7:30 p.m.

ABSTRACT BY: ZEKE ISAACS **(Room: Bahamas)**

GEORGIA HANDICAPPED SPORTSMAN, INC.

Zeke Isaacs, president, will talk about the purpose of the Georgia Handicapped Sportsmen and its events. He will highlight a video demonstrating deer and turkey shoots, skeet and trap shoots, and fishing.

ABSTRACT BY: PATRICIA DRISCOLL **(Room: Bermuda)**

"EXPRESSIVE ACTIVITIES TO FACILITATE POSITIVE ADJUSTMENT IN REHABILITATIVE SETTINGS"

The decade of the 1990's is predicted to be the Art Bloom Decade. Understanding the power of the arts, the "how" and "why" the arts bring about effective changes in the rehabilitative setting is appropriate and timely for the professional working with disability. This lab will focus on three expressive arts (dance, drama and the visual arts) to reveal their innate power. Examples of activities will be discussed and experiential participation will provide additional activities for future use.

ABSTRACT BY: KURT BAUMGARDNER **(Room: Jamaica)**

PEOPLE, PLANTS AND THE THERAPEUTIC ENVIRONMENT

This two part presentation will speak to the leisure opportunities afforded through gardening. Horticulture is a highly accessible activity for those who are disabled, as well as those who teach, live with, and work with the disabled. The first part of the presentation will feature video and lecture instruction highlighting the opportunities for leisure through plants. The second hour of the presentation will feature a hands-on activity designed to further increase awareness of the leisure value of working with plants. Participants will be encouraged to coincide not only the personal benefits, but also the positive influence upon our environment.

THURSDAY, APRIL 11TH
5:00 p.m. - 7:30 p.m.

ABSTRACT BY: CABELL HEYWARD, RILEY HAWKINS **(Outside of Convention Center, Rear of Hotel)**

WHEELCHAIR CONTROLLABLE BOAT

The wheelchair controllable boat is a joint project of the Center for Rehabilitation Technology, the State Division of Rehabilitation Services and Roosevelt Warm Spring Institute for Rehabilitation. Completed in late summer 1990, it is the first known boat designed specifically for persons in wheelchairs. It is powered by two 3HP electric motors, but is controlled in the same way as a wheelchair. An onboard computer automates the wheelchair tie downs, docking, and regulates the speed of the motors. It can be boarded, piloted, and docked completely independently.

KARATE DEMONSTRATION (Ed Roberts) **(Room to be Announced)**

FRIDAY - APRIL 12, 1991

8:00 a.m. - REGISTRATION
8:00 a.m. - 12:00 Noon EXHIBITS

8:30 a.m. - 10:00 a.m.

ABSTRACT BY: MARGY CONNERS, KAYE LONG, KIM KERR VANESSA ANDERSON, DONNA DUFF (Room: London)

COMMUNITY BASED VOCATIONAL INSTRUCTION FOR STUDENTS USING AUGMENTATIVE COMMUNICATION DEVICES

School systems are providing on site communication services to students who, as part of their school curricula, go into the community on a regular basis to participate in vocational instruction. Many of these students use augmentative communication devices. The successful integration of these students into work sites depends on cooperation and teaming between the teacher and the speech-language pathologist. This presentation will review the models adopted by the school systems represented by this panel.

ABSTRACT BY: PATRICK T. SCHARF, EDWIN IRWIN (Room: Brussels)

ACCESSIBILITY IS MORE THAN A GRAB BAR

This workshop is intended to familiarize the rehabilitation professional with techniques and approaches for providing environmental access for individuals with disabilities. Subjects will include: characteristics and applications of adaptive technology; barrier identification; attitude and its role in evaluations; evaluation techniques; designing for accessibility; accessibility equipment and resources. Case studies will be presented to illustrate the process for providing accessibility. The audience who participate and evaluating provided scenarios, and compare their results with the actual implementation. In addition, participants in the workshop will be asked to provide current problems for which the presenters, with audience participation , will provide possible design solutions.

FRIDAY, APRIL 12TH
8:30 a.m. - 10:00 a.m.

ABSTRACT BY: MARGY CONNERS, GAIL WILKINS JULIANNA WILLIAMS **(Room: Amsterdam)**

BEST BETS ON REVISING AND INTEGRATING SERVICES IN AUGMENTATIVE COMMUNICATION

Augmentative communication is no longer a specialty service for a few students in a public school system. With the advancement of assistive technology and a changing philosophy about communication services, school systems are now being challenged to revise their administration and staff's ideas and skills in augmentative communication and to lead them into providing integrated services.

Several administrators will present their views on the best way to accomplish this change.

ABSTRACT BY: GARY ROSS **(Room: Amsterdam)**

THE TRAINING OF SPECIAL EDUCATION TECHNOLOGIES

A report on the Special Education Technology Resource Center (SETRC) and the Special Education Technology (SET) program at the University of Georgia, Athens. SETRC coordinates the SET program to train special education technologists, develops computer based interactive modules to train special educators in the use of special education technology and enhance learning in the special education classroom, and maintains a system for the gathering and dissemination of information concerning special education technology.

ABSTRACT BY: DOUGLAS McJANNET **(Room: Bermuda)**

ELECTRONIC TRAVEL AIDS FOR PEOPLE WHO ARE BLIND OR DEAF-BLIND

Electronic travel aids (ETA'S) have been designed to serve both children and adults in combination with a primary travel device such as a travel cane or a dog. Some ETA's are used as obstacle detectors while others serve as environmental sensors. Recent progress has been made in the development of travel aids which provide the blind consumer with improved distance detection capacity. Engineers have designed ETA's which can be mounted on wheelchairs or housed inside the shield of a travel cane... The nineties look promising.

FRIDAY, APRIL 12th
8:30 a.m. - 10:00 a.m.

ABSTRACT BY: SHARON MEEKS **(Room: Bahamas)**

PARENT COMPUTER USERS GROUP

A panel of Lekotek parents will discuss the benefits of establishing a technology users group. The presentation will include a discussion of how the users group is establishing "family technology teams" for their children with special needs.

ABSTRACT BY: ANN LEVERETTE **(Room: Frankfort)**

MOVEMENT EXPLORATION FOR PEOPLE WITH PHYSICAL DISABILITIES

A young child with a physical disability has decreased opportunities to develop physical and perceptual skills. These skills include but are not limited to eye-hand coordination, body awareness, temporal awareness, spatial awareness, balance motor patterning, and laterality. These skills are important in the development of good leisure skills and can also contribute to the child's ability to learn academic skills better in school. This workshop will explore some activities which can enhance physical and movement skills in young children with mobility impairments.

ABSTRACT BY: JOY KNISKERN, CHARLES LORENZ,
J. D. FRAZIER **(Room: Paris IB)**

EXPANDING YOUR STATE'S DOLLARS: GEORGIA'S TECHNOLOGY TRUST FUND AND FAIR

This workshop will inform participants about Georgia's proposed Trust Fund for Technology-Related Assistance and how it will (if passed) be funded through an add-on penalty for serious traffic offenses, (e.g. driving under the influence, reckless driving and spending). The workshop will blueprint how to host a Technology Fair at your capital as one way to heighten technology awareness of legislators. A packet of educational materials will be distributed at the workshop.

FRIDAY, APRIL 12th
8:30 a.m. - 10:00 a.m.

ABSTRACT BY: JOAN BASILE **(Room: Paris IB)**

ADAPTIVE DEVICES: FROM LEAST RESTRICTIVE TO MOST RESTRICTIVE

Although technology can open up the world to individuals with disabilities, they will not fully profit from new technology until educators and parents become aware of the options available and understand appropriate and effective use of innovations.

In terms of adaptive devices, a conceptual framework of grouping computer access devices from least restrictive to most restrictive is proposed. A review of keyboard modifications, alternative keyboards and switches is presented through a video presentation and lecture. Actual devices will be demonstrated after the video presentation. Handouts of the video script and a list of vendors will be distributed to participants.

ABSTRACT BY: MIKE BURTON, JOHN GOLDTHWAITE **(Room: Paris IB)**

INTERACTIVE VIDEODISC BASED ENGLISH AND AMERICAN SIGN LANGUAGE GLOSSARY

Although, a printed dictionary of American Sign Language is not practical, a system will be demonstrated based on a interactive videodisc technology. In this system, the student looks up a word by typing it on a personal computer or pressing a function key. The computer looks the word up in its dictionary and gives the correct commands to a videodisc which would play the videotaped ASL video and corresponding English definition is displayed on either the computer monitor or a separate television monitor.

ABSTRACT BY: DR. STEVEN RAY **(Room: Paris IB)**

COMPUTER ACCESS FOR PERSONS WITH DISABILITIES

This presentation will provide information and examples of methods, software and hardware enabling handicapped individuals to access computers. The presentation will provide examples of keyboard emulation, keyboard enhancement, speech output systems. The focus of this presentation will be on individuals of normal cognitive abilities.

FRIDAY, APRIL 12th
8:30 a.m. - 10:00 a.m.

VIDEO THEATER

ABSTRACT BY: J. C. HARTLEY **(Room: Mexico City)**

COPING WITH HEARING IMPAIRMENTS

A summary of the problems encountered by the hearing impaired and possible solutions through use of assistive devices and support services.

A video tape of recent television programs, that were produced by the author, on this subject. In addition to assistive devices the video has expert advice on coping with hearing impairment from professionals with many years experience working with the hearing impaired.

FRIDAY - APRIL 12, 1991

10:00 a.m.-10:30 a.m.
REFRESHMENT BREAK/EXHIBITS
(FOYER)

10:30 a.m.- 12:00 Noon

ABSTRACT BY: JANET C. DUKE **(Room: London)**

COMPUTER-BASED TRAINING FOR OFFICE AUTOMATION AND CUSTOMER SERVICE POSITIONS

SoftWord Services provides computer-based training for people with visual, hearing and mobility impairments for professional, administrative, word processing and customer service representative positions.

Visually impaired professional, administrative and clerical support staff are using word processing applications in the business, medical and legal fields. visually impaired customer service students learn how to use a data base and the concepts of multiple screens and fields.

Examples will be given of how SoftWord Services works with Atlanta companies who are hiring our graduates.

ABSTRACT BY: TAMI HASLAM **(Room: Brussels)**

STRIVING TO SUCCEED

Striving to succeed is a summary of my life from the time I was born to present day. I will talk of the time from infancy through adolescence and how with the support of my family and friends and with my determination, I was able to gain an education and achieve various other goals.

I will also talk of my work and volunteer experience, and the many barriers I've had to face in looking for permanent employment. I will talk of society's need to break down those barriers and the necessity for us all to be involved in every aspect of life.

FRIDAY, APRIL 12TH
10:30 a.m. - 12:00 Noon

ABSTRACT BY: ELWOOD H. SPACHMAN **(Room: Brussels)**

BEYOND THE TECHNOLOGICAL

Tremendous advances in technology have addressed the needs of persons with handicapping conditions in areas such as environmental control, employment, education, mobility, interaction, and shelter.

Nevertheless, all humankind has in common spiritual, emotional and psycho- social need which are not necessarily addressed by the new technology.

This presentation will:

1. Address the commonalities which persons with handicapping conditions share with all of humankind,
2. Hear concrete expressions of these needs from persons with handicapping conditions, and
3. Explore possibilities for meeting these fundamental human needs.

ABSTRACT BY: DEIDRA BUNN, PATTI KING-DeBAUN, NETIA GEORGE **(Room: Amsterdam)**

THE AUGMENTATIVE AND ALTERNATIVE COMMUNICATION SPECIALIST IN THE PUBLIC SCHOOLS

Many school systems have created a specialty role for the Speech-Language Pathologist which is, the Augmentative and Alternative Communication Specialist. Representatives from several school systems will describe and discuss their particular job and duties.

ABSTRACT BY: GORDON WAYNE RICHMOND, RANELL SAILORS **(Room: Bermuda)**

HEAR OUR VOICES: AN EMPOWERMENT INITIATIVE

Hear Our Voices is a consumer based organization with the goal of advocacy for the Augmentative Communication user. The panel will discuss the goals of the organization and how these can be facilitated.

FRIDAY, APRIL 12TH
10:30 a.m. - 12:00 Noon

ABSTRACT BY: DOCIA M. BLALOCK **(Room: Bahamas)**

A LOOK AT GWINNETT COUNTY'S CENTER FOR SPECIAL NEEDS

People with disabilities in Gwinnett County are finding their information needs can be met in new ways in the Lawrenceville Library's Center for Special Needs. By using computers and adaptive equipment, users can independently access information resources. A 15 minute slide show offers a first-hand look at the center, its equipment, and its patrons. This high tech collection with its availability to the disabled public make it a unique service in the state.

ABSTRACT BY: BERT BURNS **(Room: Frankfort)**

INTEGRATING SPORTS FOR PEOPLE WITH DISABILITIES INTO AN ABLE-BODIED WORLD

This presentation will educate and inform people of the recreational and competitive sports option available to the disabled population. It will be approximately two hours long and will consist of slide show and a short lecture for the first hour and some group involvement is designed to further educate and allow participants of the group members. Participants will be encouraged to not only see the physical value of sports, but also the psychological benefit of competitive and recreation sport as well.

ABSTRACT BY: PATRICK SCHARF, EDWIN IRWIN **(Room: Jamaica)**
(Note the Change of Room)

ACCESSIBILITY IS MORE THAN A GRAB BAR

This workshop is intended to familiarize the rehabilitation professional with techniques and approaches for providing environmental access for individuals with disabilities. Subjects will include: characteristics and applications of adaptive technology; barrier identification; attitude and its role in evaluations; evaluation techniques; designing for accessibility; accessibility equipment and resources. Case studies will be presented to illustrate the process for providing accessibility. The audience who participate and evaluating provided scenarios, and compare their results with the actual implementation. In addition, participants in the workshop will be asked to provide current problems for which the presenters, with audience participation , will provide possible design solutions.

FRIDAY, APRIL 12TH
10:30 a.m. - 12:00 Noon

ABSTRACT BY: AL RUDNIK **(Room: Paris IB)**

USING THE DUNAMIS POWERPAD WITH THE ADAPTIVE FIRMWARE CARD

The Dunamis PowerKey software package allows you to combine your PowerPad and Apple IIe Adaptive Firmware Cared (Model G12) to operate and Apple software program from the PowerPad as the input device. User friendly menu screens enable you to access the custom features of the Adaptive Firmware Card. The included cable interfaces you PowerPad directly to the AFC I/O box on the outside of your computer (the same way a Unicorn Keyboard is connected).

ABSTRACT BY: DR. STEVEN RAY **(Room: Paris IB)**

LOGICAL LETTER CODING STRATEGIES

This presentation will describe and provide examples of letter codes and letter coding strategies for the enhancement of communication for augmented users. The system of logical letter codes utilizes abbreviations for "function words, function phrases, content words and frequently used sentences." This system can be implemented on any communication device capable of space delimited or character delimited abbreviation expansion.

ABSTRACT BY: PATRICIA JOYCE **(Room: Mexico City)**

MODEL IFSP PROCESS FOR INFANTS AND TODDLERS AT RISK

To comply with Public Law 99-457, Part H, which requires the development of an IFSP to identify and organize resources for infants and toddlers at-risk, REACH has developed a model IFSP process. Its components are generally sequential and include contacts with family, pre-assessment planning, transdisciplinary family centered arena assessment, identification of family strengths/needs, development of child and family outcomes, implementation, and evaluation of the IFSP. Video of intake, assessment, and IFSP development included.

12:00 NOON CLOSING CEREMONIES
GRAND DRAWING: BY AMERICAN REHAB (EXHIBIT AREA)

SPECIAL SESSIONS

BIOSKETCH ON GINA ADAMS

Gina Adams is currently the Director of the Florence Maxwell Low Vision Service at the Center for the Visually Impaired in Atlanta, Georgia. In July she was elected to the Board of the Council of Citizens with Low Vision International. No only is Gina the Director of the Low Vision Service, but she is a low vision consumer as well.

BIOSKETCH ON LARRY RHODES

Larry Rhodes is a low vision consultant and is the principle of the Comprehensive Low Vision Consulting Services, a consulting and training service based in Atlanta, Georgia. Larry was the former Director of the Florence Maxwell Low Vision Service at the Center for the Visually Impaired in Atlanta, Georgia. He is currently in the Master of Science Program in Vision Rehabilitation at the Pennsylvania College of Optometry, Philadelphia, Pennsylvania.

ENVIRONMENTAL MODIFICATIONS THAT ENHANCE THE VISUAL FUNCTIONING OF ELDERLY INDIVIDUALS AND INDIVIDUALS WITH LOW VISION

The information of this workshop is not only of value in improving the visual functioning of the low vision population in our society, but also of the elderly population as well. Research has shown that older individual (60+ years), and this does include individuals with "normal vision", generally need twice to three times as much illumination than individuals in their 20's.

The participatory workshop will first cover several general principles in environmental modifications. It will then examine the application of these principles in specific settings (i.e., educational, recreational, vocational, residential, etc.). With a little encouragement, the participants can come up with additional, and perhaps better, adaptations. The participants will then look at some specific ocular conditions and considerations that should be remembered when working with individuals who have these ocular conditions. Finally, the participants will be broken into small groups for a practicum experience evaluating one of several pre-selected areas at the conference site to determine what principles covered by this workshop are being applied by the conference site, as well as which ones may need to be applied to improve the environment for elderly and low vision individuals.

Participants will be given a 20 page Participant's Handout that will provide each participant with an in-depth copy of the information conveyed in this workshop.

Workshop will be limited to 15 participants.

OUTLINE OF WORKSHOP

I. **General Principles:**

   a. Illumination
   b. Glare
   c. Fluorescence versus Incandescence
   d. Contrast
   e. Other General Principles and Considerations

II. **Simple Devices to Control Illumination and Glare:**

   a. Lamps
   b. Visors
   c. Side Shields
   d. Lens Tints, Color Coatings, and Filters
   e. Typoscopes

III. **Applying the Principles to Specific Environments and Tasks:**

   a. In the Kitchen
   b. In the Dining Room
   c. In the Bedroom
   d. In the Bathroom
   e. In the Living Room
   f. On the Stairs and Steps
   g. On the Floors
   h. In the Hallway
   i. In the Workshop
   j. In the Classroom, Rehabilitation Center, Recreation Center

IV. **Ocular Conditions**

V. **Practicum: Evacuation of Selected Areas of the Conference Site**

VI. **Selected Bibliography**

BIOSKETCH ON JOHN F. ADAMS

John F. Adams is an inventor, computer expert and dyslexic. Mr. Adams comes from a professional family whose father was a professional family whose father was a physician and an inventor himself. Mr. Adams graduated from Harvard University after attending private high school were he learned about and did something about his dyslexia under the guidance of Janet Rule and Anna Gillingham. By the time his daughter was four years old, he noticed her problems with dyslexia. He was determined to build a reading program that would prevent her from having reading trouble. Ultimately, this became the motivating factor for development of the LPI computer project which Mr. Adams invented.

WITH LPI: LITERACY PROGRAMMING INTERNATIONAL

The LPI approach to learning can help students learn to read, improve grades, an build self-esteem. We can also help teachers and tutors teach courses more effectively in their own classrooms, resource rooms, school libraries, and through student homework. The LPI approach is easy, affordable, and guaranteed.

The LPI educational approach is called Multipath Learning. It is based on the simple fact that many people who have had trouble learning to read and study can do much better if information is presented simultaneously through multiple pathways (audio, visual, kinesthetic, and interactive). With LPI, Human Voice Accompanies visual text. Each letter, word, phrase, or sentence is accompanied by high fidelity sound. We do this with a computer and tape recorder hooked together in a special way. We do not synthesize or digitize sound. As a result we can have excellent sound and extensive programming. All our exchange are interactive and multisensory. LPI provides four main capabilities:

1. ***Reading Aloud:*** Human voice accompanies visual text sentence by sentence. This is a multisensory and interactive approach. Students see a sentence come on the screen and then they have as long as they want to read it out loud. When ready they press a button and hear the sentence read aloud. If what they hear disagrees with what they said (or did not say) they read the sentence out loud again, echoing what they heard. In this way students self correct their own reading. They also develop proper pronunciation and phraseology.

2. ***Structured Phonetic Course:*** We provide a professional, structured phonetic course for reading based on the principle of the Orton-Gillingham method. The approach is interactive-voice and text, engaging, exciting, empowering, and extremely effective. It is very helpful to the learning disabled and the dyslexic person.

3. ***Recording Your Own Voice and Text Programs:*** Teachers and students can record weekly spelling, vocabulary and math drills right in the classroom at the beginning of the week and then practice these drills at school or home.

4. ***New Study Tools:*** Special techniques are provided for taking notes without writing and listening to books on tape with automatic pausing after each thought.

There are specific advantages for students with this approach:

1. ***Lots of Voice and Text Teaching:*** Hours of prerecorded, professional interactive instruction that can be located anywhere.

2. ***Reduce Overall Learning Time:*** The student is now learning independently and as often and as long as desired, total teaching time therefore is easily increased substantially.

3. ***Professional Help for Dyslexic and LD Students:*** The structured phonetic course is designed to be done independently at home.

4. ***Listen to Books Read Aloud:*** Reading books aloud to students is very important. The LPI program enables students to hear and develop proper English pronunciation and phraseology while they look at the associated text.

5. ***Tie-In with Teachers/Tutors:*** School teachers and one-on-one tutors can send home material for the student to practice independently and over and over.

6. ***Tie-In with Parents:*** Parents, spouses, and friends together with students can record their own interactive programs of voice and text for independent learning, practice, review, and repetition.

7. ***Address Family Literacy:*** The whole family can use the LPI system.

8. ***Increase Motivation:*** By using the student's own voice and experiences you can greatly increase student motivation and reduce student dropout.

9. ***Provide Kinesthetic (muscle) Confidence:*** This is done by requiring students to correctly pronounce the words and phrases they read.

10. ***Build Closeness:*** This is done with students; by recording reading material for the student, i.e. the lead article of the daily paper, favorite books, student stories, and journals. Students practice this material independently over and over again.

11. ***Reduce Interpersonal Conflict:*** Because student interact with a machine, and not with a parent, spouse, or friend, interpersonal conflict is reduced. Student's can work as long as they want. Students can get help instantly and as often as they want. This approach also ends the hours of repetition other had to formerly spend with the student.

12. ***Combat Attention Deficit Disorder:*** Our engaging format also solves many attention deficit problems. Students are so involved in constructing correct answers that they concentrate for long periods. Learning comes as a corollary to the exciting experience that they are having.

13. ***Empower Students:*** Students get a chance to be right at least 70 times an hour. They also have a great deal to say about how they learn: how fast, how long and how often they study.

14. ***Handle Alienated and Frustrated Students:*** Students can start off at home and then begin weekly sessions with a tutor and then join a group when ready.

15. Address Special Needs of Severe and Profound M.R., Aphasic, and Brain Trauma students and help Bilingual and ESL students.

FUTURES PANEL

As a special attraction, we are pleased to announce a FUTURES PANEL. This interactive panel consists of individuals from the banking, law, business, and religious communities who are progressive and futuristic in their professional communities. Listen to these leaders discuss how legislation such as The Americans and Disabilities Act (ADA) 1990 and the Technology-Related Assistance for Individuals with Disabilities Act of 1988 will affect the areas of banking, law, business, and religion in the new decade.

BIOSKETCH ON EDWARD V. ROBERTS

Ed Roberts is an internationally-recognized leader of the Independent Living/Civil Rights movement of people with disabilities. In appreciation for this leadership, Ed was granted the prestigious MacArthur Fellows Award in 1984. The World Institute on Disability, which Ed co-founded and now serves as President, seeks to promote public policies that increase the civil rights and further the integration of people with disabilities of all ages, to promote positive and life-affirming views of people with disabilities, and to develop new leadership for the international Independent Living Movement. Born January 23, 1939, in Burlingame, California, he received his B.A., M.A., and A.B.D. from the University of California at Berkeley in Political Science. In 1988, Ed was interview by Harry Reasoner on 60 Minutes. Ed has a son, Lee, age eleven.

Ed Robert is a pioneer:

- He was the first person with severe disabilities to enter the University of California, and subsequently led a successful effort to make the University at Berkeley accessible and sensitive to the needs of people with disabilities.
- He was one of the founders of the Center for Independent Living in Berkeley, a self-help model of advocacy and service program for persons across all disabilities. During his tenure as Executive Director of the Center, the organization's budget grew from $40,000 to $l,000,000.
- He was the first severely disabled person to head a state department in California, the California Department of Rehabilitation, which has 2,500 employees and a $l40 million annual budget. While Director, he implemented Independent Living Programs on the state level and advocated for their adoption at the national level.
- He co-founded and is the President of the World Institute on Disability, the first public policy center controlled by people with disabilities and dedicated to the elimination of "handicappism", through equity of opportunity and full participation within our society.
- He is a coalition-builder around political action among all disability groups, including the elderly.
- He helped organize and found Disabled People's International, a consumer-controlled international organization. He served as the first North American chair.

Edward V. Roberts:

Ed Roberts is a man of extraordinary warmth, optimism, and vision. He radiates confidence in his ability to draw people, disabled and non-disabled, into positive and creative action. Through his speaking engagements worldwide, he has literally touched and improved the lives of millions of people.

BIOSKETCH ON JAMES G. BREENE

Jim Breene joined IBM in Nashville in June, 1956 after graduating from Peabody College with a B.S. degree in Business Education. He held a variety of administrative, technical, management and marketing positions in Nashville, Cincinnati, Indianapolis and Louisville prior to his current position on the staff of the National Support Center for Persons with Disabilities in Atlanta in January 1986.

Breene was instrumental in establishing the center's Executive Awareness program on disabilities. This program has been presented in major cities to raise the level of awareness of educators, rehabilitation professionals, employers, government officials, and the general public on the issues of employment, education and quality of life for people who are disabled. The presentation and demonstrations are directed to the decision makers who can open the doors of opportunity to help people who are disabled to compete on a "level playing field" in our society. The theme of this program is "People Helping People Through Technology". It is designed to dispel the myths associated with the quality of work and the cost of accommodations for people who are disabled.

He is liaison to the IBM World Trade Centers for Persons with Disabilities in Canada, Belgium, England, France, Germany, the Netherlands, Portugal, Spain and Sweden. He consults with and supports IBM personnel who work with Federal agencies and post-secondary education on disability legislative issues and technology.

In March 1988 Breene testified before the Congressional Task Force on Women, Minorities and the Handicapped in Science and Technology in Atlanta. He serves as Chairman of the Advisory Board of the American Foundation for the Blind in the Southeastern Region in Atlanta.

Breene was one of 20 persons in the United States selected to participate in the 14th Annual Mary Switzer Memorial Seminar in Rehabilitation. The 1990 Switzer Scholars were chosen for their leadership, expertise and achievements in the subject area of this year's seminar entitled, "Employment and the Issues of Disability in the 1990's". The Switzer Seminars are sponsored by the National Rehabilitation Association.

BIOSKETCH ON ROGER O. WEED

Roger O. Weed, Ph.D., CRC, CIRS, FNRCA is the graduate rehabilitation counseling coordinator and Associate Professor at Georgia State University in the Department of Counseling and Psychological Services. He holds adjunct faculty status with the Center for Rehabilitation Technology at the Georgia Institute of Technology. He is a Certified Rehabilitation Counselor, Certified Insurance Rehabilitation Specialist, and Fellow of the National Rehabilitation Counseling Association. He has authored or co-authored seven books and more than 25 articles on rehabilitation topics.

Dr. Weed maintains a private consulting practice specializing in catastrophic cases and rehabilitation professional training. He has worked in the areas of corrections, public sector rehabilitation, mental retardation, head injury, emotional disabilities, workers' compensation, social security and other insurance rehabilitation, rehabilitation technology, and personal injury litigation. He is a rehabilitation technology consultant to the Division of Rehabilitation Services in Georgia. Dr. Weed received his Ph.D. from the University of Georgia.

Book and article example topics:

- Rehabilitation Technology
- Life Care Planning
- Transferable Skills
- Labor Market Access Analysis
- Earnings/Earnings Capacity
- Private and Public Sector Rehabilitation
- Computer Applications in Rehabilitation
- Pain Basics
- Writing Rehabilitation Plans for the Injured Employee and Others

BIOSKETCH ON MARGO E. BROEHL

Margo E. Broehl is an attorney from Wooster, Ohio. She serves as Corporate Counsel for the Prentke Romich Company and has been active in efforts to change legislation and regulations to better meet the needs of people with disabilities. She has been involved in advocacy activities for more than 20 years and has made many speeches and presentations on advocacy issues.

BIOSKETCH ON WILLIAM D. SMITH

William D. Smith is an Atlanta native. He has been working with people who have disabilities since 1968 and has been designing and building homes since 1981. William specializes in low cost home design and wheelchair accessible, barrier-free home design and won a National first place award for low cost home design in 1984. William currently offers services including consultation concerning accessibility, inspection and evaluation of existing buildings for access, custom new home designs, blueprints, and review of plans drawn by others for appropriate access features. Mr. Smith is considered an expert in the field of wheelchair access and housing construction in general, and has given expert testimony in both state and federal courts.

GUEST FACULTY

MISTRESS OF CEREMONIES: Carmen Burns

Carmen Burns is an anchor woman for Channel 11's WXIA TV in Atlanta and is well known for her participation in community activities. Her interest in disability awareness has resulted in numerous news features that received state-wide recognition. Carmen is a recipient of the Governor's Council on Developmental Disabilities media award. Carmen Burns was born and raised in Atlanta, Georgia. Upon graduating from Southwest High School, Carmen ranked in the top ten percent of her class and received a scholarship to enroll in Spelman College. Carmen continued to excel in her education, and as a result of her effort she graduated with honors, and a B.A. degree in History while minoring in Spanish.

Carmen's first job in the media was with WPLO/WVEE Radio in Atlanta where she was the morning News Anchor and later became the Entertainment Editor. She then went to work for CNN and anchored both Radio and Headline News.

Her next venture in the broadcast industry was to produce for Georgia Public Television. She was responsible for conducting fund raising drives and producing, as well as, hosting a weekly public affairs program called "Prime Time".

Carmen joined the 11 Alive family in January of 1985, and has held positions such as General Reporter, Noonday Anchor, Entertainment Reporter and her present position of Weekend Anchor.

She has been honored by the Georgia Air National Guard for a news series on the F-15 Eagle, and by the Governor's Council on Disabilities for a news series on handicapped parking.

Carmen has served as the Honorary Chairman of Mother's March of Dimes and is a board member for the Atlanta Center for Independent Living and Parent to Parent. Carmen is married with two children.

Ed with his son, Lee.

KEYNOTE SPEAKER: Edward V.Roberts

We are excited and honored to welcome Ed Roberts to the conference as our keynote speaker for the banquet on Wednesday evening. Ed is an internationally-recognized leader of the Independent Living/Civil Rights movement of people with disabilities. Ed co-founded and is president of the The World Institute on Disability, an institution that is dedicated to the elimination of "handicappism," through equity of opportunity and full participation within our society. Ed was the first person with severe disability to head a state department in California and is a coalition-builder around political action among all disability groups. He has an extraordinary ability to draw people, disabled and non-disabled, into positive and creative action and has literally touched and improved the lives of millions of people. Ed will be available during the conference for discussions and networking.

JUNE ISAACSON KAILES

June Kailes is a Disability Policy consultant. She currently consults with local, state, national, and international organizations in the area of disability-related advocacy, public policy, independent living centers, management training and fund raising.

June Isaacson Kailes has been active as a disability rights advocate and program developer in the independent living movement since the late sixties. June consults in the areas of disability-related advocacy, public policy, independent living center management, training and fund raising. She is currently working with such local state, national, and international organizations as the National Council on Independent Living, National Council on Disability. United Cerebral Palsy Government Affairs Department, California Foundation of Independent Living Centers. World Institute on Disability and Maguire Thomas Partners. During her eight years as executive Director of the Westside Center for Independent Living (WCIL) in Los Angeles, June established WCIL as one of the largest and most respected independent living centers in the United States. June is a frequent speaker on independent living and other disability related issues and has authored numerous articles, book chapters, monographs and training manuals.

DANIEL JOSEPH SKANDERA

Daniel, who has Down Syndrome, is a nineteen year old Special Education graduate of Meadowcreek High School, Norcross, Georgia. He was born in Columbus, Ohio where he attended Childhood League Center, a futuristic preschool for children with disabilities and was mainstreamed in regular public school classes from kindergarten through fifth grade.

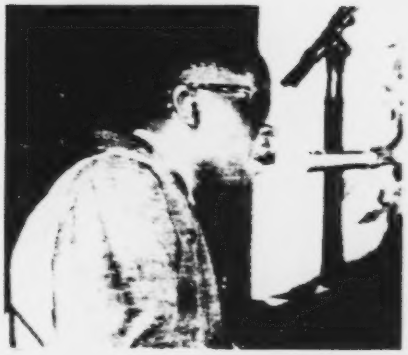
Daniel's main interest is music. After moving to Norcross, Georgia, he began his formal music training at Pinckneyville Middle School in 1985. He has played marimba, xylophone and orchestra bells in the Meadowcreek High School marching band and concert band since his freshman year. He has received seven superior ratings in band and solo competitions during his four years at Meadowcreek High School.

In 1988 and 1989 Daniel was featured as Marimba soloist at the annual school concert. In 1989 he received a Special Music Award at the annual band banquet and was elected to Who's Who in High School Music and the United States. He also performed as marimba soloist at Christ the King Lutheran Church and the International Very Special Arts Festival at the Kennedy Center in Washington, D.C.

Daniel's ambition is to pursue his interest in music. He likes to perform and compete. Last year he entered three areas of competition: Marimba Solo, Xylophone Solo and Percussion Ensemble. The Meadowcreek High School concert band, under the direction of Ms. Vicki F. Pinson, received a superior rating at the 1990 district concert band competition. The band also competed in Florida during May 1990.

Daniel is the son of Dr. and Mrs. Daniel Skandera. They reside in Peachtree Station in Norcross, Georgia. Daniel's mother is a former systems representative with the IBM Corporation and she is an excellent trumpet player. She is Daniel's primary music teacher. His dad, Dan, is a clinical neuro-psychologist and was one of the founders of the National Down Syndrome Congress in 1973. He served as Vice President and Research Chairman for several years. Both of Daniel's parents have been very active in his education.

Daniel was featured in the Joining of Hands show sponsored by Very Special Arts and Variety Club of Atlanta in May 1990. He is the 1991 Very Special Arts Itzhak Perlman Award recipient. The award was presented to Daniel by Mr. Perlman on February 5, 1991, in Sarasota, Florida. A $3,000 scholarship was awarded for the continuation of his music studies.



MUSICIAN: Willie Moody

Willie Moody has jammed with Pearl Bailey and entertained at the home of Senator Ted Kennedy. Pianist, composer and vocalist, Willie, whose first album was released in early Fall, will provide entertainment during Wednesday's reception.

Willie Moody is a young musician from Albany, Georgia. His talents as a pianist, vocalist, lyricist and composer are a result of Willie's life-long interest in music. He was only five years old when he began playing the piano. That love of music, now combined with his demonstrated outstanding musical abilities has resulted in many performing opportunities for him.

The youngest of 11 children, Willie Moody was born May 13, 1971. He has been blind since he was two years of age. Willie was mainstreamed in regular public schools since he started in a pre-school class at the age of three. He graduated from Monroe High in the Dougherty County School System this year. He played the keyboard in his high school band and various ensembles. He has the innate ability to listen to a song and then play it. Due to his blindness, formal piano lessons have not been a regular part of his training.

Willie has been a Very Special Arts Georgia participant in Albany since 1977 when that city held the first Very Special Arts Festival in our state. His festival performances began when he was asked to substitute for an artist who canceled and now he performs regularly at the annual event.

On behalf of the Department of Education, Dr. Werner Rogers recognized him at the Excellence Recognition Program during the June, 1987 state board meeting.

Willie was the Georgia Nominee for the Itzhak Perlman Award in 1988, and again in 1990. He was the guest artist during Fulton County Arts Council's "Salute To The Arts" reception on November 20, 1988, where Very Special Arts Georgia was recognized. As a result of that event, Willie's picture appeared along with an article in the Very Special Arts national newsletter.

His desire to continually improve his musical skills as well as his desire to share his music with others made us especially happy to have Willie represent Georgia at the 1989 International Very Special Arts Festival in Washington, D.C. June 14-18. At the festival, he was a featured artist at the Gospel Sing Out in All Souls Church hosted by Pearl Bailey. At the end of the program, Miss Bailey called Willie back to the stage and they had an unrehearsed jam session. He accompanied as they both sang. The next day, he was in the back- up chorus for Kenny Rogers' performance at the White House lawn event. He also performed at the John F. Kennedy Center for the Performing Arts. At the end of that of that performance, Willie was invited to entertain at Senator Kennedy's home following the closing Gala. This gave him an opportunity to entertain the Gala stars and the patrons of the International Very Special Arts Festival. His first album has been released. It is a gospel album titled "Friends in Jesus".

Willie graduated from high school in June 1990. While a student at Georgia Academy for the Blind this year, he studied Independent Living Skills and Braille Music. Willie hopes to be able to go to college and pursue a career in music.

BLENDING

BIOSKETCH ON GAIL MOORE

Gail has been involved in developing employment resources in Georgia for many years. She was instrumental in developing Georgia's Alternative Employment Program.

BIOSKETCH ON DR. LES JANICE

Les Janice, Ph.D. is the Director of Georgia State University's Career Information System; a resource that provides occupational and educational information on microcomputers at over 350 sites around the state to help people make informed career choices.

BIOSKETCH ON VAN M. YOUNGINER

Van M. Younginer, a human services professional with over 20 years of experience. He is the Program Coordinator for Georgia's Alternative Employment Program. The Program is operated by the Division of Rehabilitation Services for any person with a disability who is seeking employment with the State of Georgia.

BIOSKETCH ON LINDA CARLSON

Linda Carlson is an Occupational Therapist with the Center for Rehabilitation Technology has many years of experience in assistive people with severe disabilities become more integrated into various activities through assistive technology.

LINK-UP WITH RESOURCES TO FIND EMPLOYMENT

This workshop will teach consumers and professionals how to find career, training, and assistive technology resources needed for employment. The Georgia Career Information System uses a microcomputer-based approach to helping the job seekers identify a career direction. This system will be demonstrated. Because the workshop is designed to network consumers with these resources, materials will be distributed at the workshop and are not included in the Conference Proceedings.

BIOSKETCH ON WENDY MONS

Wendy Mons is the owner of Mons International, a company that provides products, services, and resources to and for the visually impaired and blind. She has worked with the low vision population for over 20 years, either in the rehabilitation setting, The Low Vision Clinic setting, or in private doctor's offices. She has completed low vision courses at the University of Texas, the New York Lighthouse, and the joint commission of allied health personnel in Ophthalmology. She resides in Atlanta with her three children.

LOW VISION: DEFINITION, SERVICES, AND AIDS AVAILABLE

The definition for legally blind used internationally is a visual acuity 20/200 or less in the better eye with the best correction using regular lenses, or a visual field of 20 degrees or less in the better eye (Dickman, 1973).

Visual acuity scores do not indicate: (1) the distribution of the eye disease; (2) little adequacy of visual function; (3) little effect of lighting or glare; or (4) the perceptual or mental status (Kelleher, 1979). Therefore not only must visual acuity be taken into account when discussing low vision, but also the visible disturbances caused by specific disorder, and the person's own individual functioning and needs.

The definition of legal blindness remains intact, but it is agreed that a person with a visual acuity of as high as 20/70 could be visually impaired. "Visual acuity is not talk best criterion - impairment of performance is the ultimate criterion" (Mehr & Fried, 1975, p. 1).

Taking all the above mentioned definitions into consideration, it has been estimated that there are between two and a half to eleven million visually impaired in the United States.

Whatever the numbers, the knowledge is that there is a growing low vision population and these people need services. Finding these services is a difficult task. The following is a good guide to follow:

1. The best place to begin is the American Foundation f/t Blind, 1-800-232-5463.

2. Parents of visually impaired children should contact:

   a. The National Association for Parents of the Visually Impaired:
      P. O. Box 180806: Austin, Texas 78718, (512) 459-6651.

   b. The state superintendent of schools or the director of special education in your county.

3. Persons over the age of 18 should contact:
    a. Your local department of human resources.
    b. A center for the blind or visually impaired.
4. Veterans can contact the Veterans Administration.

Contacting and connecting with the services in one's area will lead to the introduction of aids, appliances and techniques one probably never dreamed existed. Some are as simple as hand magnifiers. But some are as complex as an electronic reading machine. The major aids, appliances, and techniques fall into the following groups:

1. Sight utilization (Barraga in Lowenfeld, 1974).
2. Illumination, Contrast, and Glare Control.
3. Magnification: hands stand, illuminated, headborne, telescopic, or electronic.
4. Non-optical aids.
5. Training and tricks to make life a little easier.

A person is visually disabled when his/her vision interferes with his/her normal growth whether physical, intellectual, or social. One who is able to adjust to and compensate for his/her vision loss is not disabled. These tools and services are available.

BIOSKETCH ON LARRY G. WILSON

Larry G. Wilson is a native of Aiken County, South Carolina, the writer was graduated, with distinction, from Georgia Southern College, with a Masters degree in Education. He has worked in the field of mental retardation for the last 16 years, focusing his services in the residential and day training fields. Presently, he is the Executive Director of the Gwinnett County ARC, Inc. and Hi-Hope Service Center.

ADAPTING ENVIRONMENTS FOR INDEPENDENT LIVING

In recent years, Hi-Hope Service Center has become increasingly responsive to the needs of adults who have developmental disabilities as well as to the realization that many programs for adults need to be based in community settings. This presentation will provide types of supportive efforts believed needed by persons with developmental disabilities, and their families, as they strive to attain maximal independence.

An essential component of this environmental adaptation model is the role of the interdisciplinary team. The team is comprised of multiple disciplines working together where needed to provide the necessary expertise to meet the complex needs presented by the individual with developmental disabilities. The focal point of the team is the individual with developmental disabilities and his nature network of support. Based upon the individual's desires and motivation to work and to live independently, the team begins to assist the individual with defining his assets and liabilities. Liabilities that appear to be barriers for the individual to work and live independently are then viewed in terms of environmental adaptations.

The major objective of environmental adaptations is to convey to the individual with developmental disabilities that he can have control over his environment, and thus can function as independently as possible. In this model, the environmental adaptedness must be individualized to meet the specific needs of the person for which it is intended and must be implemented in the person's natural surroundings. Environmental adaptions can range from the simple to the complex, and from the obvious to the obscure.

An additional feature of environmental adaptations is that it can be time consuming in its implementation stage. The time element is dependent upon the complexity of the individual's needs and upon the coordination of needed adaptions. Experiences have demonstrated that the more time spent with environmental adaptations the more likely the individual is to be successful in his work and living environments. The utilization of the most current technology, and applying it to the instructions of persons with developmental disabilities, have been a primary focus of the community integrated programs.

A large part of one's status and self-image revolves around one's occupation, and of course for the common good, a contributing member of society is far preferable to a dependent one. There are few adults with developmental disabilities who, given the right circumstances, can accomplish economically useful work. Environmental adaptions have played a major role in helping adults to become economically useful workers. For example, work stations can be modified to accommodate individuals in wheelchairs, or an augmented communication device can be implemented for the employee with development disabilities to facilitate his interactions with his work environment. Through the use of environmental adaptations individuals with developmental disabilities are participating in productive work that traditionally has not be available to them.

Environmental adaptations have played a major role in helping individuals with developmental disabilities to live in their own home. The objective in assisting individuals in choosing a home is to ensure that it is barrier-free. Experience has proven that if the home is not barrier free, that the landlord is willing to work with the interdisciplinary team to achieve this goal. Examples of environmental adaptations to enhance one's likely of living independently include: rebuilt kitchens to accommodate individuals confined to wheelchairs, light-switches lowered, bathtubs converted to walk-in showers, stoves and microwaves modified to a single switch operation, computerized telephones with use of symbols, visual illuminations of doorbells and fire safety devices, amplified telephones, and an emergency communication device with neighbors.

It has been the writer's experience that the failure of individuals to work and live in a less restrictive environment is due in part to professionals' inability to be creative enough to address barriers to services. If the profession is truly serious about individuals with developmental disabilities becoming part of the community in which they live, work, and socialize, the profession must begin to truly assess and implement programs based upon the individual needs of people with developmental disabilities, coupled with the most current assistive technology.

BIOSKETCH ON VINCENT J. RAPPA

Vincent J. Rappa is the Eastern Regional Manager for Telesensory, Inc., a worldwide leader in the development of sensory aids and adaptive computer hardware and software for persons who are visually impaired. Prior to his current position with Telesensory, Mr. Rappa served as Vice President of Sales and Marketing for Enabling Technologies, and spent several years working at the Helen Keller National Center for Deaf-Blind Adults.

TELEBRAILLE II-A SECOND GENERATION FOR COMMUNICATION FOR PEOPLE WHO ARE DEAF-BLIND

The problems associated with communication between an individual who is deaf-blind and another person who does not posses manual communication skills can be enormous. These restrictions tend to have a negative impact on education and vocational opportunities, and even the quality of independent living.

If the person who is deaf-blind does not have enough usable vision or hearing to permit communication through some type of amplification, then tactile reading/communication is the best or only medium available. Braille takes on a tremendous importance.

Until recently, the only "device" on the market for this type of tactile, deaf-blind communication was the Teletouch. This small portable qwerty keyboard allows the deaf-blind person to feel or read a single braille cell as the other person depresses keys. For many, it is a slow and somewhat inefficient method.

Several years ago, Telesensory, Inc,, a California based high technology for the blind company, collaborated with the Helen Keller National Center for Deaf-Blind Adults to develop the TeleBraille system. Using paperless braille display technology developed for their VersaBraille devices, Telesensory produced the TeleBraille, basing it on the commercially available TDD (telecommunication device for the deaf). This essentially combined the capabilities of a standard TDD with a 20 cell or character paperless braille display. Unfortunately, the TDD upon which the TeleBraille was designed then went out of production. This, coupled with an admittedly small market, caused the demise of this valuable product.

In late 1990, Telesensory introduced the TeleBraille II. This "successor" to the original TeleBraille is a combination of the newer 20-cell, 6-dot Navigator braille unit and Ultratec's Supercom TDD. Beside the display, the Telebraille II has a six key braille keyboard and the TDD qwerty keyboard with a standard 40 character visual display. To the deaf- blind user, this means the return availability of a practical way to communicate with others.

Beyond standard person-to-person communication with the TeleBraille II, the user can also access the telephone, just as a deaf person would on a TDD. But for a deaf-blind person, access to such things as data bases and bulletin boards, via a computer and telephone line, open up more than mere personal communication. This type of information access transcends conventional braille and/or recorded documents by giving the user immediate, selected and independent data access.

One interesting potential application of the TeleBraille II is for use with standard television and closed captioning. Experimenters with the original TeleBraille found it possible to have the text of dialogue on the television converted to braille code and presented on the braille display. This would enable a deaf-blind person to "read" a television program by touch.

The manufacturer of TeleBraille II deemed it appropriate to give deaf- blind users the same capabilities with the system as have blind users of the Navigator system. Connecting TeleBraille II to a laptop or desktop personal computer the user can gain access to off-the-shelf hardware programs, including word processing, data base and spread sheet packages.

Of course as with nearly all technological devices for persons with disabilities, the relatively small market size (especially so with anything manufactured for the deaf-blind), and high development and manufacturing costs, with overhead, lead to a fairly hefty price tag. Yet in pricing TeleBraille II at $5,500, Telesensory, Inc. has maintained a "slicker tag" close to that of the original TeleBraille in 1984. One can only hope that funding sources will be identified, and that availability of TeleBraille II will help promote greater independent living and educational and vocational opportunities among the deaf-blind population.

BIOSKETCH ON DAN LIEBOWITZ

Rehabilitation and Education for Adults and Children (REACH) is committed to providing quality comprehensive rehabilitation and education programs and services for adults and children with special needs and their families.

The Program Staff, comprised of Physical, Occupational and Recreational Therapists, Speech and Language Pathologist, Behavior Specialists, Early Intervention Educators, Social Workers and a Nurse, in conjunction with family members, constitute the Transdiciplinary Team that performs the arena assessments and develops the IFSP.

As Recreation Therapy Coordinator, with training and experience for both adults and children, it is my responsibility to ensure the planning, organizing and implementation of ongoing weekly activities and field trips for the entire center.

RECREATION THERAPY: AN INTEGRAL PART OF THE IDEAL PROGRAM

Recreation Therapy is an integral part of an ideal program because of its built-in components of motivation and enjoyment during the therapy process. In most other disciplines, therapy represents pain and effort. Which usually warrants a negative attitude toward treatment. This explains why recreation therapy plays an important part of treatment because chances are greater that behavior rewarded with self-motivation and pleasure will be repeated especially when an individual is left on his own for example, after discharge.

Examples include swimming, bowling, roller-skating, horseback riding, and challenge courses. Presenter will show slides of selected activities and will expound on the planning, organizing, and implementation of such matter. The challenge course will be highlighted by a special video production that occurred during the presenter's college practicum. It will focus on a unique one week confidence course that begins with building team unity and basic trust skills and ends with a challenging high adventure ropes course.

Participation in these activities, the amount of which is determined by the individual, enables each person to learn to trust his/her physical and emotional self and support and encourage others. Each individual is encouraged to select an activity that he/she would like to participate in. The individual and team members then discuss how the activity can be implemented with the least amount of adaptations but still maintain its attractiveness. During implementation the individual is encouraged to try his best separately or collectively by the group members. Upon completion of the session group members have a debriefing session and exchange thoughts and impressions of each other during the activity. As previously mentioned, a video presentation will be made and a discussion will commence.

BIOSKETCH ON CABELL HEYWARD

Cabell Heyward is an Industrial Designer at the Center for Rehabilitation Technology. He obtained his degree from Georgia Tech in 1983.

BIOSKETCH ON RILEY HAWKINS

Riley Hawkins, a Rehabilitation Engineer, obtained his degree for Georgia Tech Engineering Science and Mechanics. He also has a certificate in orthotics from Northwestern University.

WHEELCHAIR CONTROLLABLE BOAT

Introduction:

This project began in June of 1989 in response to recreation therapy needs at the Roosevelt Warm Springs Institute for Rehabilitation and also to the large numbers of disabled individuals who are not exposed to the benefits of boating because of safety concerns or the lack of an accessible boat. The purpose of this project was to address these issues.

A new method of restraint for wheelchairs was developed, and new method of piloting a boat and docking were developed to minimize safety risks, so that it would be possible for the boat to be used recreationally without the need for assistance.

The first prototype is docked at a recently completed fifteen acre lake at the Roosevelt Warm Springs Institute for Rehabilitation. It does not require transferring nor any previous experience in boating. It is operable by anyone capable of operating a wheelchair. Funding was provided by the Center for Rehabilitation Technology and the State of Georgia Division of Rehabilitation Services.

Description:

The wheelchair controllable boat is supported by two 22" foam filled pontoons, approximately 13 feet, 6 inches in length and spaced apart by 6 feet, 8 inches on center. The pontoons are rigidly held by a frame of 3/8 inch thick aluminum beams which support the deck of pressure treated studs and 3/4 inch marine plywood. A thirty inch railing surrounds the 8 by 14 foot deck with an entrance on the port side, aft, and exit at the bow. The deck is flat except for the four tie-down mechanisms which are equally spaced across the width at the center. Access to these electrical components for servicing is through latch doors in the deck.

Near the bow, there are latch doors to a storage compartment, and the on-board computer, an Intel 8052 AH microprocessor controlling the tie-downs, the trolling motors, and other functions. Behind these are access hatches for the motors which power the tie-down mechanisms. These tie-downs were developed specifically to hold only the front casters of a wheelchair to allow the rear wheels to spin freely. The clamping action is started as the caster wheels roll on to a series of parallel spring steel fingers, aligned along the length of the boat and arching above the deck by 1.5 inches. As they are depressed by the wheelchair rolling over them, the caster is held from rotation and the tie-down motor is whitched on. This brings up from the deck two clamping bars, located at each end of and perpendicular to the spring steel fingers, which travel up and inwards towards the caster wheel until the proper clamping pressure is reached. Behind the four tie-downs are located two 8.5 inches diameter rollers. These are in line across the width of the boat and protrude above the deck by 1/4 inch. As the front caster wheels are clamped, the rear wheelchair wheels are brought to rest directly on top of the rollers. Sealed inside the rollers are encoders which measure the speed and direction of the rollers. This information is processed by the computer into instructions for each of two Minnkota electric trolling motors.

In this way, a wheelchair can be clamped rigidly into position and the operator can control the boat through motion imparted to the rear wheels. This configuration of two rollers and four evenly spaced tie-downs allows either two wheelchairs to pilot the boat, one controlling the starboard motor, and the other, the port; or, one wheelchair to control both motors by using the two center tie-downs, and thereby running the starboard motor with his right hand wheel, and port with his left. In this way, it is no more complicated to control the boat than it is to control a wheelchair.

Directly behind the rollers is the access hatch to the tub containing four 12 volt deep cycle marine batteries which power the trolling motors, all control motors, the computer, running lights, the horn, and etc. for 6 to 8 hours of continuous use. The batteries are recharged daily by plugging into a charge located at the dock.

Docking is made easier by the use of underwater guides which help to funnel the boat in place as it approaches the dock. Also there is a bar protruding from the dock which mates with a solenoid operated latch centered on the bow of the boat to insure that the deck meets the dock accurately enough for wheelchairs to disembark.

The project is ongoing and improvements are made as funds are available. Future plans include automation of controls which now require mouthstick use or can only be done by paraplegics and a remote control system by which a liveguard or supervising therapist, at the dock can override the controls on the boat and steer it back to the dock should it become necessary for safety reasons. Also there is the possibility of radio communication between the boat and the dock, and monitoring the vital signs of the operators from the dock.

Use:

The boat is intended to fulfill two primary missions: to serve as an introduction to water sports for the disabled who either because of the envisioned safety risk, or because of the unavailability of accessible boating have never been on the water, and also to provide a completely independently operated recreation opportunity for the experienced boaters.

Since safety is of primary concern, the boat has a very stable hull, is considered uncapsizeable, and is used only in the sheltered waters of a 15 acre lake. Power by electric motors, ensures that physical exhaustion does not pose the safety risk of leaving one stranded without the strength to get back to the dock. The tie-down system proves effective as it releases the boat from the dock once it is engaged and does not disengage (unless the operator overrides) until the boat is completely docked.

For the purpose of recreation therapy, two operators can control the boat simultaneously. The strength advantage of one operator over another can be compensated, otherwise the two must work cooperatively to travel in a straight line. The boat is designed to carry two operators and two passengers.

The boat also lends itself to fishing. Qualified wheelchair riders can anchor the boat, disengage the tie-downs, and maneuver around the deck to fish, independently.

BIOSKETCH ON DOUGLAS McJANNET

Douglas McJannet graduated from Boston College with a Masters degree in Education and, for nearly ten years, has worked as an orientation and mobility specialist, serving visually impaired and deaf-blind persons. Previous work experience includes employment with The Louis Braille Institute Nazareth at Louis Braille, Montreal, Quebec, and The Helen Keller National Center For Deaf-Blind Youth and Adults, in New York. Mr. McJannet is currently employed as the coordinator of adult services with Mobility Services Incorporated in Atlanta, Georgia.

ELECTRONIC TRAVEL AIDS FOR PEOPLE WHO ARE BLIND OR DEAF-BLIND

The presentation consists of two parts which combine information about the evolution of travel aids with hands on experience operating the travel aids.

I. **A brief Historical Perspective**

   a. Purpose of ETA's
   b. Earliest Prototypes
   c. Target Population
   d. Research with Children
   e. Training Programs

II. **Travel Aids in the Sixties and Seventies**

   a. Ultrasonic Devices
   b. Laser Technology
   c. Strengths and Weaknesses

III. **What is meant by the selective use of a travel aid? How can a device assist an individual in selective situations?**

   a. Mass Transit
   b. Commercial Environment
   c. Home Use
   d. School or College
   e. Outdoor Travel
   f. Work Environment

IV. **Where are we headed in this age of computers? Is there such a thing as the perfect electronic travel aid?**

The travel devices to be discussed and made available to operate would be the following:

Travel Devices Continued:

1. ***Laser Cane*** - Features a full information warning system through three audio and tactile signals.
2. ***Polaron*** - Ultrasonic system developed in the mid 80's which is lightweight and provides distance range of up to 16 feet.
3. ***Sensory Six*** - An ultrasonic device developed in Canada which is worn as eye glasses and should gain new popularity in the 90's as the field testing shows excellent results.
4. ***(P.D.S.D.)*** - Path Drop-Off Sensing Devices are mounted on wheelchairs and provide a blind individual with increased independence and safety.

A blindfold experience would be recommended to interest participants so as to best simulate a travel situation.

BIOSKETCH ON GORDON WAYNE RICHMOND

Gordon Wayne Richmond is a business analyst and advocate for the disabled. He is currently employed as an administrative associate at the University of Alabama in Birmingham, Department of Medicine. He now serves on S.M.A.R.T. Exchange Advisor Council and is charter member of the Board of Directors of Hear Our Voices. He holds a bachelor of science degree in business administration.

BIOSKETCH ON RANELL SAILORS

Ranell Sailors is the parent of a ten year old child with multiple disabilities, including Cerebral Palsy and visual disability. Her son's use of an augmentative communication device (Touch Talker) has prompted Ms. Sailors and her husband to initiate and direct a parent user group entitled, "Parents of Augmentative Communication Talkers". This is the first statewide effort in Georgia to form a network of parents in response to a critical need for a parental voice in state legislation regarding the use of AAC in the public schools. This group has also provided a forum for parents from rural and under-served areas to network together for the purpose of creating awareness of the benefits of AAC and sharing practical ideas for maximum use of AAC in school, home and community environments. Ms. Sailors also served on Georgia's Department of Education Task Force for AAC and Assistive Technology.

HEAR OUR VOICES: AN EMPOWERMENT INITIATIVE

It is my pleasure to be asked by Communication Outlook to share information with you about our new consumer-based organization, Hear Our Voices. Hear Our Voices was formed to further the issues and concerns of augmentative and alternative communication users, caregivers and friends. In the emerging field of AAC, the voice of the consumer has been quiet, yet the concerns of the AAC user are real and intense. Issues such as public policy reform, funding development and group and personal advocacy can best be addressed through an organized, grass roots consumer effort.

Hear Our Voices is a non-profit membership organization composed of AAC consumers (people who use any AAC system), their immediate family members or caregivers, friends and advocates. The primary purpose of Hear Our Voices to help users of AAC systems empower themselves to effect change in their personal lives and in public policy arenas. Hear Our Voices represents an exciting opportunity for consumers and has the potential to be a powerful voice in shaping the future of AAC.

The Board of Directors of Hear Our Voices will be composed solely of consumers and caregivers. They will establish the policies, the budget and long-range plans of the organization. The implementation of the policies of the Board is the responsibility of the Executive Director, who is hired by the Board. In addition, a Board of Trustees will be selected by the Board of Directors and will be composed of internationally known persons. The trustees will meet periodically as needed to advise and support the Board of Directors in financial and public policy initiatives. The Board of Trustees will advise; the Board of Directors will determine policy.

Hear Our Voices will be supported by membership dues, grants from foundations and businesses, government special project funding and businesses, government special project funding and gifts from individuals. In order to ensure that the organization begins on solid financial footing, the Prentke Romich Company and Semantic Compaction Systems have provided a generous start-up grant. Hear Our Voices annually membership dues for 1991 are $10 per year.

Each member will receive a newsletter specific to the needs and interest of AAC consumers. Members will also participate in governing the organization through its elected Board of Directors. Upon direction by the Board, the staff will address public policy issues, funding enhancement and group and personal concerns with the goal for each AAC user to reach his or her potential.

There are many organizations directly involved with, or in support of, AAC concerns. Hear Our Voices wishes to build coalitions and working relationships with all such organizations. Hear Our Voices is the only organization in the AAC field which is governed solely by consumers. Empowerment of AAC users is the ultimate goal of all AAC organizations; Hear Our Voices will add a new and unique dimension to help achieve this goal.

Everyone who subscribes to Communication Outlook is an "empowerment vehicle." You may have never been called this but this is what you truly are. In most cases, an empowerment vehicle is not technology; it is politics, or access to voting rights. It is protest, non-violent or violent. It is education and financial clout. But in the AAC field, technology is also an empowerment vehicle.

There have been several stages of development in organizational dynamics over the past years. The first stage was the era of the Dark Ages for the disabled. This era promulgated an institutional environment where people were closeted in large holding facilities or at home. Instead of de- institutionalization there was institutionalization. Instead of the least restrictive environment, persons who were disabled were placed in the most restrictive environment. There were many reasons for this restrictive philosophy: Ignorance, anger, fright, embarrassment, narrowness of viewpoint, negativism and lack of financial resources, among others.

The second stage of development was the era of benign neglect. The philosophy of benign neglect says to a person who is disabled, "If you want to succeed, fine, go ahead; do it. The free enterprise system is out there. Pull yourself up by your boot straps." It did not matter that some people could not reach down to their boot straps or see their boot straps or hear the person telling them to reach down. That was immaterial. The system was in place and all a person had to do was to reach out and use it. However, some people could not reach, or see, or hear, or talk.

The third stage was the era of cooperation. The advocates of cooperation say, "So you want to succeed or achieve your potential. In order to do this, just tell us how you want to do it, and we will do our best to help. We will point out or show you where the boot straps are. We will even bring the boot straps to you. We will even help you to find boot straps. But we were not going to build boot straps that are adapted specifically to your disability or lifestyle." However, in spite of their relative lack of sensitivity, this era of cooperation was a big step because it helped people with no experience in the disability field become acquainted with the real life of a person with disability; permitted the emotion of empathy, and started an important perceptual change.

This brings us to the fourth stage, the area of advocacy where we mostly are today. There are people who are innovating, changing policies, inventing, lobbying and writing to change public opinion. Although they themselves may not be disabled, they have provided a strong and articulate voice on behalf of those persons who are disabled.

However, I think we are ready to enter a stage five, which is the era of empowerment. To empower persons who are disabled to advocate for themselves is the ultimate goal. Now is the time for people with handicaps to achieve their potential no matter what their interests may be, no matter what level their cognitive ability is, no mater what their life goals may be. Everyone should have the right to achieve his or her potential and to achieve that potential through one's own merits and efforts.

Recently, I had an opportunity to talk with a dedicated speech pathologist who had devoted 25 years in the field of AAC. She works in a school that has helped many people move toward the goal of achieving their potential. We had a very interesting and illuminating conversation because she expressed concerns about Hear Our Voices splintering the AAC movement. As we were talking, she referred to everyone she had helped in her schools as "my kids". Finally I had to say to her that these persons are no longer "your kids." They are people of all ages who need to learn or have already learned to empower themselves to achieve their goals. This is not to say that the field does not need advocates. But we who are advocates need to move over and make significant space for people who are disabled to speak for themselves, advocate for themselves, and thereby empower themselves to change their own lives.

Hear Our Voices will help to solidify the transition from advocacy to empowerment. It will also help to enhance communication between advocates and persons who wish to empower themselves to achieve a better life. When talking to policy makers, we can talk about and write thousands of works describing AAC technology and the impact on the user. But as we all know, one meeting between a policy maker and a user who explains the impact of AAC technology on his or her own life, is far more powerful than the most articulate explanation by the most knowledgeable and caring advocate.

You are the empowerment vehicle. Empowerment of AAC users should be the ultimate goal of AAC organizations and all persons in the AAC field. Hear Our Voices will add a new and unique dimension to achieve this goal. Without you, Hear Our Voices would not have been possible, and with you Hear Our Voices will achieve its goal of the empowerment of all AAC users. I thank you very much for all the work you have done throughout the years, and thank you for your support of Hear Our Voices in the future. If you have any questions or would like membership information, please contact Hear Our Voices at the address below or (216) 262-4681.

COMPUTER LAB

BIOSKETCH ON BETSY WYATT

Betsy Wyatt is a teacher of the visually impaired with Floyd County School System, Rome, Georgia. She has a masters degree in Specific Learning Disabilities and 11 years teaching experience in special education.

COMPUTER ACCESS FOR PEOPLE WHO ARE VISUALLY IMPAIRED

The Floyd County School System, Rome, Georgia, has implemented a special education program for their visually impaired students, providing them with hi-tech solutions to some of their special learning needs. The program is implemented by an itinerant visually impaired teacher for students in a number of different schools.

The Floyd Visually Impaired Program is based on the BEX word processing program for blind and visually impaired people which is both Apple and IBM compatible. The BEX software loaded on the appropriate computer is combined with several peripheral and adaptive devices to provide total access for the visually impaired student.

The peripheral devices used by this program include:

1. Large screen display for 40 to 5 column display.
2. Echo Speech Synthesizer for auditory output.
3. Braille Embosser for printed output.
4. Power Pad for alternate keyboard input.
5. Micro Illustrator (software) for graphic braille output of maps, science pictures, coloring patterns, etc.

The BEX software allows the instructor to configure a special program for each student. Two of the students will be used for demonstration at the program. Their configurations are:

Dudley (20/200 vision):

1. Large screen monitor (20 column display).
2. Slow speech.
3. Print l4 point and l8 point.
4. Uses a combination of screen and speech synthesizer to proof papers.

Jennifer (totally blind):

1. Regular color.
2. Fast speech.
3. Keyboard or Power Pad (used to draw).
4. Uses speech synthesizer to proof papers.

BIOSKETCH ON CAROLINE MUSSELWHITE

Caroline Musselwhite is a speech-language pathologist at the Irene Wortham Center in Asheville, North Carolina. She is author of numerous books and articles regarding communication for the severely handicapped. She is also a presenter of workshops around the country, giving practical ideas to teachers and therapists alike.

BIOSKETCH ON PATTI KING DEBAUN

Patti King deBaun is currently president of the Georgia Society for Augmentative Alternative Communication (G-SAAC) and the state representative for the United States Society for Augmentative/Alternative Communication (USSAAC). She has recently published a book and continues to design products and materials for children with special needs.

BIOSKETCH ON SHERRY LOWRY

Sherry Lowry is founder and president of Access Unlimited in Houston, Texas. Sherry founded the organization to share information nationally about ways children and adults with a disability could use adapted personal computers.

BIOSKETCH ON SHARON MEEK

Sharon Meek is Lekotek and Compuplay leader. She is also owner and president of R.E.A.C.H., Inc., a company dedicated to the development of innovative products to assist young children with disabilities. She is a presenter of workshops on computer-aided play with preschool youngsters with disabilities.

NEW INTERACTIVE SOFTWARE FOR USE WITH THE ECHO, POWERPAD, TOUCHWINDOW, AND MULTIPLE SWITCH BOX

Interactive games, songs and rhymes, repeated-line stories, dialogue for role playing are all important components of the preschool environment, yet are often inaccessible to the child with special needs. With these concerns in mind, the presenters have pooled their resources in creating inexpensive software, which they hop will fill the gap between commercial software and classroom and therapy activities.

The presenters have created programs utilizing existing authoring software designed for the PowerPad, TouchWindow, and multiple Switch Box. The step-by- step demonstration using such hardware/software as the Quickie Scanner, graphics programs and the Echo speech synthesizer will be shared. The presenters will include practical, immediately useable computer activities for involving children with special needs in traditional pre-school activities. Software samples will be provided.

While the focus of this session will be on the software and how it can be used in the classroom/therapy setting a brief explanation of the development process will be discussed. The process evolved into seven different phases.

Phase I Equipment Use:

A. Hands on experience with equipment.
B. The "learn as you create" method.

Phase II Review Existing Software:

A. Software developed by team members.
B. Existing software:

    1. Games
    2. Storybooks
    3. Nursery rhymes
    4. Songs
    5. Dialogues
    6. Treasure hunts

Phase III Idea Development:

A. Brainstorm

Phase IV Focus Session:

A. Select target focus or topic.
B. Brainstorm about topic.
C. Trim, identify four subtopics.

Phase V Brainstorm about Subtopics:

A. Overlay development.
B. Picture search.

Phase VI Development End Product:

A. Scan pictures.
B. Refine pictures, make set-up disk.
C. Create tool kit set-ups.

Phase VII Group Discussion:

A. Wish list.
B. What's next.

BIOSKETCH ON GALE SEVENER

Gail Sevener has a masters degree in Speech Pathology from Bowling Green State University. She taught in public schools, universities and worked as a consultant for both the University of Georgia and Edmark Corporation.

USE OF TOUCHWINDOWS AND TOUCHWINDOW SOFTWARE

The TouchWindow is exciting. It allows students to work directly with software content, without struggling with the input process. Perceptually and cognitively, the TouchWindow is a wonderful way for anyone to access the computer!

Students and teachers naturally point to and touch a computer monitor while using today's instructional software. Now, the TouchWindow takes advantage of this natural interaction by allowing students to select responses or move objects by simply touching the screen. Excellent for students lacking the fine motor skills for using a keyboard or a mouse.

For Direct Interaction:

Students select choices directly on the screen. No intermediate steps or devices interfere with a student's attention. Thought is not divided between the learning task and manipulation of the computer. Just touch the object or word on the screen and the computer responds.

For Better Performance:

Students stay more engaged in the learning process. Studies show that students complete lessons more quickly and more accurately when using a TouchWindow.

BIOSKETCH ON DR. JOAN BASILE

Dr. Joan Basile, a former SLD teacher, has a seven year certification in SLD, MR, Interrelated Special Education, and School Administration. Author of The Exceptional Child in the Regular Classroom, she has been East GLRS Director, Augusta for 16 years.

ADAPTIVE DEVICES:
FROM LEAST RESTRICTIVE TO MOST RESTRICTIVE

Technology has helped to open up the world to the handicapped. The computer is one of the technological devices which can assist the handicapped in education, vocation, communication and environmental control.

However, to benefit from the computer individuals must be able to interact easily with it. Often physical and/or cognitive handicaps interfere with using the standard keyboard which is the most common means of interaction. A number of devices exist which allow the handicapped person to use the computer in ways similar to non-handicapped use.

Three options for modification, from least restrictive to most restrictive include:

- **Modified Keyboards**
- **Alternative Keyboards**
- **Switches**

Keyboard modification is the least restrictive approach to computer adaption. It should always be considered as the first option. Examples of keyboard modifications include:

Moisture Guard, a clear flexible protective covering for the computer keyboard.

Keyguard, a clear hard plastic guard with holes over the key positions. The shield prevents unintentional activation of more than one key at a time and allows users to stabilize their hand while pressing the keys. Most keyguards attach to the computer with velcro.

Keylatch, some toggle on/off and others slide on/off. The latch is a device designed to hold down the ESCAPE, CONTROL, SHIFT or other keys. Keylocks allow a one-handed or single finger typist to toggle these keys on and off. Keylocks attach to the edge of a computer or to a keyguard.

Repeat Defeat, is a hardware modification that disables the auto-repeat function. It allows users to type slowly without inadvertently activating the repeat on each keystroke. It is installed in the keyboard circuit socket.

Detached Keyboard, a keyboard similar to the IIGS; one that is attached to the CPR by cable allowing it to be placed in a variety of positions.

The second option is to use an alternative keyboard, that is, attach another keyboard to the computer which allows easier access than the standard keyboard. The alternative keyboard "ignores" the standard keyboard and provides a new keyboard which may be different in size, layout, and complexity.

At this point we need to learn about "transparency". An alternative keyboard is transparent when it will run any software that will normally run on the computer. In another words, the computer does not realize that anything other than the standard keyboard is being used.

Adaptive Firmware Card, is an adaptation that allows alternative access methods to operate the computer and standard software "transparently". The AFC is inserted into one of the interface slots of the Apple II series and becomes a keyboard emulator. It "tricks" the computer into thinking that you are using the computer keyboard when you are actually using a switch, alternative keyboard, or some other input device to send the signal.

Muppet Learning Keys is an enlarged keyboard with letters, colors, numbers, control, and escape keys and help pictures. It is designed to be appealing and logical to young children. Its raised keys in alphabetical order need very little pressure to be activated. Also, it is very lightweight and durable. However, this device is non-transparent; it will work only with software developed for it. The keyboard attaches to the computer through the game port.

The Power Pad is another non-transparent touch sensitive keyboard which allows a variety of key configurations depending on the software use. There are a large number of programs available which have been developed for it. The Power Pad with the Echo Speech Synthesizer may be used as a communication board. This device attaches to the computer communication board. This device attaches to the computer through the inter game part socket or to an external port.

The Koala pad is a graphics device which can be used for art and drawing with individuals who cannot hold a pencil and who have the ability to color. It attaches through the game port.

The Touch Window is a see through screen which attaches to the computer with velcro. It allows an individual to use a finger or pointer to select choices or draw on the computer screen. It can be used with young children and low cognitively functioning. This device is non-transparent and does not lend itself to use with groups. The screen connects to the computer through the game port.

The Unicom Expanded Keyboard is a touch sensitive keyboard designed to be customized into a variety of keyboard layouts. This customization can make keys larger or position keys within optimum reach. It is transparent when used with a keyboard emulator such as the Adaptive Firmware Card. When used with the Echo Speech Synthesizer, it can be used as a communication board. The Unicorn is one of the more flexible options on the market, however, teachers need to spend time to learn how to use it and develop overlays for the various applications.

The Tash Mini Keyboard is a small keyboard designed for individuals with a limited range of motion. The TASH mini keyboard is ideal for stick users. It can be customized with the Adaptive Firmware Card and has a keyguard.

A third option for modification is switches. Switches should be considered as an alternative only for students who cannot successfully access the computer using the hardware we have just discussed. Switches include levers, pressure sensitive membranes, infrared sensitivity, breath, electronic and light activation.

As you can see there have been great strides in the development of alternative options to keyboard entry. Some points to consider are:

- First, think in terms of keeping the user on the keyboard. If this is not feasible, consider alternative keyboards and then go to switches.
- Another variable to consider is rate of accessing the computer. For example, if the user has an extremely slow rate and you want to keep the rate of interaction high in academic drill you may want to use a switch.
- Other variable include consistency of the device and independency factors.

BIOSKETCH ON AL RUDNIK

Al Rudnik is the Vice President for Sales at Dunamis, Inc. since 1984. His responsibilities include the training of teachers, which he has conducted at conferences and workshops across the United States. Mr. Rudnik has a background in business and has four children including a three year old adopted son (Jason) who has Down's Syndrome.

USING THE DUNAMIS POWERPAD WITH THE ADAPTIVE FIRMWARE CARD

The Dunamis PowerKey software package allows you to combine your PowerPad and Apple IIe Adaptive Firmware Card (Model G12) to operate and Apple software program from the PowerPad as the input device. User friendly menu screens enable you to access the customer features of the Adaptive Firmware Card. This included cable interfaces your PowerPad directly to the AFC I/O Box on the outside of your computer (the same way a Unicorn Keyboard is connected). PowerKey software allows you to save a copy of your AFC SetUps to disk before loading PowerKey SetUps onto the AFC. This feature allows you to continue using your AFC SetUps without having to recreate them. Aversion of PowerKey for the G32 will be available in the early 1990.

This one hour presentation will consist of a demonstration of the new Dunamis PowerKey software program. The Dunamis PowerKey software package allows you to combine your PowerPad and Apple IIe Adaptive Firmware Card (Model G12) to operate any Apple software program form the PowerPad as the input device.

The three-fold reasoning behind the development of the PowerKey software will be presented. This reasoning includes first of all the need for an interface to connect both the Dunamis PowerPad and the Adaptive Firmware Card by Don Johnston Developmental Equipment, Inc. Since its creation in 1982, the PowerPad, as an input device, has depended on software that is written specifically for the Pad. On the other hand, many Adaptive Firmware Card users who already owned a PowerPad, had to purchase another device when their students needed an alternative touch tablet. Now, with PowerKey software, an interface for the PowerPad and the Adaptive Firmware Card exists.

The second reason for the development of PowerKey software is to make this interface very user-friendly. Our engineers have taken great steps to simplify PowerKey for a nontechnical teacher and user. This includes a (WYSIWYG) "what you see is what you get" create mode for SetUps. The teacher can created PowerKey SetUps very quickly because you see it take shape on screen. This removes all the guesswork of how the SetUp may possibly turn out. In addition PowerKey software contains help screens that enable the teacher to learn as they go, without having to constantly consult the user's guide. Quite possibly the most practical feature of PowerKey allows the teacher to first save the current AFC SetUps to disk before loading the PowerKey set-ups onto the AFC. Later the teacher can restore AFC SetUps back onto the AFC. This feature allows the teacher to continue using AFC SetUps without having to recreate them.

The final rationale behind PowerKey is to accomplish the interface and the user-friendliness at a reasonable price. This will be highlighted at the presentation.

PowerKey will be demonstrated on the PowerPad using several popular keyboard oriented software programs.

FAMILY

BIOSKETCH ON DR. LORNA BENBENISTY

Dr. Lorna Benbenisty holds a Ph.D. in Clinical Psychology from Georgia State University. She also completed a M.S. in Speech and Language Pathology at the University of Michigan. She works with many developmentally disabled children and adults diagnostically and therapeutically.

IMPACT OF A DEVELOPMENTAL DISABILITY ON THE FAMILY AND ITS INDIVIDUAL MEMBERS

This paper/presentation will highlight the impact of a developmental disability on the family and its individual members. In this paper, the type of disability or specific diagnosis is itself less significant than is the manner in which each individual family interprets the label. Rather, it will be seen that the diagnosis of any handicapping condition in a child will have a general impact on several dimensions of family functioning.

On the one hand, the incorporation of a child with special needs in a family requires a rearrangement or addition to the typical demands that any dependent child presents. These special needs may include specialized medical assistance, unique learning environments and therapies, and an alteration in routine parenting patterns. Because of the ongoing nature of these needs, the family with a child with special needs is called upon to evolve a pattern of living as a family that incorporates these continual additional tasks. Individual family members must negotiate among themselves to decide how the ongoing physical responsibilities will be shared. The family is also called upon to interact closely with school systems, hospitals, etc. Financial constraints and reduced time for relaxation are other stressors which are often imposed upon families. Family members are required to accommodate to these new demands; demands that typically differ from their expectations of what parenting and family life would be like. Making changes is always difficult, and may stress a family's emotional equilibrium and usual means of functioning.

Certainly, the family in being faced with a societal difference is challenged to "make sense" out of the fact that one of the members of the family carries a label which alters the child's and family's relationship to society. Initial reaction to a disability may include various patterns of emotional reaction: guilt, fear, anger, anguish, denial, depression, hopelessness, and embarrassment. In the early stages, some individuals desire to gain information about the disability while others choose to face each issue as it arises. Differing parental styles and personality types may become disruptive to the family's ability to cope with the new demands placed upon them. Since adults in the family "set the stage" and determine much of the emotional climate of the family for other family members, they are also called upon to monitor how the siblings are affected by one child's special needs. Moreover, they are often called upon to calm extended family members.

Children with special needs may also impact the major subsystems in the family. Emotionality may stress the marital subsystem, particularly families with young children. For instance: one parent may become over-involved with a specific child, which may disrupt the marital bond. Or, an in-law or other extended member may become over-involved with the family's issues, leading to difficulties in how the family defines itself.

The parental subsystem includes those individuals in the family charged with nurturing and socializing the children. While it typically includes the mother and father, other family members such as a grandparent or a sibling may fulfill this role. The literature on parental attitudes, as well as clinical reports, point to overprotectiveness as a characteristic of parental behavior. Many times, overprotective behavior stems from the use and need for a controlling, directive parenting style with young children which then becomes habituated. Difficulty making the transition to supporting the child's needs for increased independence can eventually weigh heavily on the family's available physical and emotional resources.

The siblings of the child with special needs may be impacted in a variety of ways; disruption of the "normal" sibling's sense of identity and perceived or actual demands imposed by the parents around caretaking of the child with special needs. Siblings may feel guilty for not being handicapped and may be concerned that they may in fact become handicapped or have handicapped children themselves. They may become "parental children", suggesting that they take on many of the adult's parenting responsibilities while neglecting the demands of becoming a child, such as learning to engage in normal peer relationships.

Many areas of potential concern have been delineated. However, it should also be acknowledged that stressors and crises within any system offer, and even sometimes demand, the opportunity for growth and change. As a result, conflicts may lead to opportunities for resolutions of child management issues while simultaneously directing attention to those conflicts inherent in any relationship. When ongoing conflicts are resolved, positive outcomes, and outcomes which might otherwise never have been negotiated, are possible. These may involve a "realness" in interpersonal relationships and a purposefulness in which a family relates to the larger community, such as increased altruism and empathy. More research is required to delineate in what manner a family's functioning may be positively impacted by a developmental disability.

BIOSKETCH ON DR. JANICE R. STRANG

Mom, Dr. Janice R. Strang is a chiropractor whose expertise is in body mechanics and the nervous system. She has been in private practice for nine years.

BIOSKETCH ON HEATHER R. BROOKS

Heather Brooks was born in 1981. Because of limited mobility due to Cerebral Palsy, Heather operates a Meyra controlled power chair. As a student in the DeKalb system, Heather has been meeting her communication needs with a Light Talker which she also controls with her foot.

PARENT PANEL

History:

Heather Brooks was born in 1981. She had a traumatic birth process which resulted in anoxia and seizure activity which brought about her diagnosis of cerebral palsy. After her initial hospitalization, she has had no seizure activity and has been on no medications.

Educational and Therapeutic History:

Heather started at the United Cerebral Palsy Center as a preschooler at age three. No special equipment was purchased at that time.

Heather progressed to Coralwood school at age five. Her adaptive equipment consisted of a safety travel chair as purchased by us personally since no insurance was covering her. Therapeutic care to this time included only the school PT and OT recommendations, and chiropractic and physiotherapy administered by myself and her father.

After two years at Coralwood, she then progressed to Huntley Hills Elementary, which is in DeKalb County school system. Through interactions with other parents and therapists as well as vendors of adaptive equipment, we applied for Medicaid, as well as services from Children's Medical Services, a part of the Department of Human Resources. She was evaluated for Augmentative Communication equipment, as well as for a power chair. She had started working on the schools Light Talker at Coralwood, and showed ability to work with switches and scanning. The need for a device to be used at home was demonstrated, along with her ability to operate a foot controlled power chair. The Light Talker and a Meyra foot controlled power chair were then purchased for her.

Heather is continuing to be followed by orthopedic, PT, and OT from Children's Medical Services. Several adaptations have had to be made on her power chair, especially where her head control is concerned. We understand the importance of having a vendor who is willing to work with us to change the equipment when problems associated with positioning and pressure arise. We have had to also maintain a manual chair for times at home when the extension of the foot extension could not be maneuvered around the home.

Other adaptive equipment which is currently utilized at home include a potty chair, a TLC bath chair, as well as a Tumbleform mobile floor sitter.

The use of adaptive equipment is vital for Heather's continued progress and development. Networking with other organizations such as the PEACH network, other parents, therapists, teachers, and vendors of this equipment is also imperative to stay abreast of the rapid changes in adaptive technology.

My expertise in body mechanics and the nervous system has enabled me to expand my boundaries into the areas of treatment, seating and positioning as well as adaptive equipment which can help my daughter, as well as benefit others toward a more productive life.

BIOSKETCH ON CAROL HEWITT KELLEY

Carol Hewitt Kelley is a Georgia native. Mother of three exceptional children, with over 21 experience integrating their needs with local, county, and state agencies.

BIOSKETCH ON CHRISTY KELLEY

Christy Kelley is the daughter and middle child of Carol and Tom Kelley. She is the sister to Tim and Martin Kelley. Christy attends Georgia Tech, where she is majoring in Biology and Genetics.

TECHNOLOGY: A FAMILY'S PERSPECTIVE

Speech impaired people encounter daily frustrations. The simplest thought or command is often communicated with great difficulty. Compounding the problem is that often the word uttered is not the word the individual wanted to express.

Just as "beauty is in the eyes of the beholder", so is the progress of the verbally impaired measured differently by those who deal with that individual. One person may see the overall picture of achievement as small or non-existent; another will see that technology is a link to a wider range of options or choices for that individual. Yet another will notice a sense of accomplishment and pride that surrounds the person. Self-confidence and self-esteem are essential for any of us to succeed regardless of our handicaps.

Change is a difficult task under the best of circumstances. Yet change can be exciting and rewarding especially for the handicapped. With each challenge there is a sense of accomplishment and the overwhelming desire to learn a new skill immediately. To take giant leaps forward and always improve is a human trait that is not easily squelched. The truth is that we usually make progress slowly and with many mistakes along the way. The interesting challenge is to remember our goals and be satisfied with any progress, large or small. "Overnight" successes are attained by those who work diligently and do not lose sight of their objectives. The support of friends, relatives, and professionals is essential to achieve long-term goals of the handicapped.

My difficulty in preparing this presentation is that there is no easy answer. No clear right or wrong. No simple black or white solution. Just many shades of gray. To obtain the best for your child is expensive and time-consuming, as well as physically and emotionally draining. How do you meet the needs of one child and ignore the needs of another? Siblings require time and attention. Yet often they are put on the "back burner" while your handicapped child or children demand their needs be met. What about your spouse? Quality time is scarce in this fast-paced society. The stress of living with disabled members in the family is often overwhelming. It is difficult keeping your life in order, much less finding a few minutes to call your own. It takes great flexibility, patience and communication skills to determine your priorities.

Electric Augmentative Communication has given our sons a new beginning. Each new skill is a building block to higher learning. Tim, our oldest child, has waited a long, long time for his opportunity to shine. He has worked hard and is very proud of his accomplishments. His enthusiasm is contagious, and I try to be optimistic. I look at it as though he is starting kindergarten 20 years late. We continue to learn until the day we die. Tim and Martin can achieve if we all pull in the same direction.

Technology is not the "cure all" To offer the promise of a better life without the means of obtaining it is a cruel hoax. With the hardware must come support, caring people utilizing today's technology for the advancement of the disabled. The success of this conference will be judged by the number of disabled people touched by the people attending these lectures. The knowledge obtained here is useless unless it is shared with someone in search of a better life.

BIOSKETCH ON EDWARD L. YOUNG

Edward L. Young is the General Superintendent of J. A. Jones Construction Company in Atlanta. He has supervised building of the Regency Hyatt, Marriott, and Hartsfield Air Terminal. Edward serves on the Cleveland City Council (20 years) and is active in the Cleveland Methodist Church. His pleasure is farming and raising horses in his spare time.

BIOSKETCH ON GINNY PURCELL YOUNG

Ginny Purcell Young graduated from Truett-McConnell College with Associate in Arts Degree, North Georgia College with B.A. in English and Psychology, University of Georgia with M.Ed. in Elementary Education, and University of Georgia with Ed.S. in Elementary Education. She taught third grade for 20 years, and remedial reading and math in fourth and fifth grades for four years. Ginny and Edward Young lost two children before adopting Ashli.

BIOSKETCH ON MELODY THOMASON: ASHLI'S TEACHER

Melody Thomason holds a Bachelor Arts Degree in Sociology and a Masters of Education in Personnel Services form Clemson University. After becoming interested in working with the mentally handicapped, she returned to North Georgia College and completed requirements for a teaching certificate in Mental Retardation and is currently in her third year of teaching the profoundly mentally handicapped at White County Elementary in Cleveland, Georgia.

THE SEARCH FOR ANSWERS

Ashli's biological mother was a 16 year old, who gave birth at Crawford Long Hospital to a six pound, two ounce girl on August 1, 1975. No complications were noted about the birth. The baby was given up for adoption. Ashli was placed in a foster home at two or three days of age. At five weeks she became critically ill and was hospitalized for a week.

Ashli came to live with us in November, 1975. She was a joy and we were all so happy. Ashli was a beautiful baby with no indication that something was wrong. She had sleep problems, but we attributed that to the foster home. By ten months Ashli was not sitting alone and I suspected something was wrong. The pediatrician said that I was an over-educated mother and to go home and enjoy her. At the end of that year, his partner agreed with me, but he did not know where to send me. At about 20 months Dr. Langston sent us to Dr. Lee Lindsey, a pediatric neurologist in Atlanta. He did a thorough Neurological evaluation and found nothing wrong except that she was small and developmentally delayed.

Dr. Lindsey referred us to Dr. Linda Nathanson-Lippitt at Children's Habilitation Center. She evaluated Ashli in two visits. At the end of the second visit, she told me that Ashli was retarded but she did not know to what degree. I felt my world had collapsed. The most difficult words I ever spoke were to say "my child is retarded". The next few months were sheer agony. Had I not had a very supportive husband, I do not know what I would have done.

Dr. Nathanson started us on a program of physical therapy three times a day. We used huge beach balls rolling her to build in reflex actions that were not there. She eventually would reach out to catch with her hands to keep from falling. We also worked on hip stability in the floor. Her hip muscles were like jello. After two and one half months of intense therapy carried out at home, Ashli walked to catch her cat. She was 26 and one half months old. Dr. Nathanson was overjoyed, saying afterward that she did not think Ashli would walk. This was only the beginning of weeks, months, and years of therapy directed by Dr. Nathanson. Hair samples were sent to a lab in Chicago finding that Ashli had some aluminum poisoning and severe vitamin deficiencies. We did away with aluminum cookware and started vitamin therapy. The aluminum cleared up within months, but Ashli still takes vitamin C and adult multi-vitamins.

Ashli started speech therapy with Dr. Nathanson's therapist at the Center. She cooed and babbled happily, but no actual words were observed. Dr. Nathanson recommended Vocaid; Ashli did not have the strength in her fingers to push or use. Progress was made in other areas at a slow pace. Ashli learned to feed herself with a fork; food fell off the spoon before reaching her mouth and we would end up feeding her.

We continued to have physical and speech therapy under the direction of Dr. Nathanson through the coming years. Ashli became school age, but there was no place for her in White County. She continued at "A Child's Place", the nursery she had attended since about four. Finally at age six, a kindergarten teacher who was a friend of mine asked that she spend some time in her class. She stayed the first year until 10:30 a.m. and in subsequent years, we lengthened her stay to half days. Ashli remained in this kindergarten class from age six to ten with short pullouts in Special Ed. The school speech therapist saw her for short periods of time at age eight to nine. No program was worked out for Ashli and random activities were done with no focus on specific goals. This speech therapist finally wrote Ashli out of her program, saying she did not qualify because she had no speech. She had a problem coping with retardation, runny noses, and drooling, so I felt Ashli was better off out of her program. She also brought it to my attention that she was sure Ashli was having seizures because she faded away to the floor twice when with her. I checked this out with her Pediatrician who thought this a joke. He said with all Ashli's problems, this was not one of them. The lady did not seem to know Ashli was just trying to get away from her or her activity. The one good thing this teacher did was to stay at my house eight hours a day for a week in the bathroom and trip-train Ashli to use the bathroom.

In 1985, a self-contained class was finally established. It was made up of eight mild to moderate students and Ashli. Ashli was the only non-verbal child in the class. The teacher had no training in this area, so she tried many different things with her and still no focus on communication goals. She expected more of Ashli than she was capable of doing. Ashli was sent home with numbered dot-to-dot sheets to do at night. This was an impossible task for her, but her father and I chose to laugh about it. Dr. Nathanson's report clearly indicated the types of activities Ashli should be involved in, but this was ignored. Without our knowing it, Ashli was being punished for not following instructions, being obstinate, and finally refusing to perform at all. She finally went to pieces, crying and refusing to go to school or come in the room after getting here. I carried her to the doctor to see if something physical was the problem. He immediately took her out of school saying she was almost to the point of a nervous breakdown. Ashli spent two years in this class before being taken out. Ashli's homelife was centered around a loving and supportive family. She verbalized, used jargoning to her two cats. She enjoyed TV. We became amazed at how much she understood. She was very aware of her environment. She loves to go to the farm, ride and be with horses.

In 1987, a new teacher for this class made the difference. The students began to have feelings of self-worth. They were learning life coping skills. Ashli was a happy child anticipating going to school everyday. We also had a new speech therapist who began to work with Ashli and tried many different things such as identifying pictures, matching pictures, and activities which would improve fine motor coordination. Mrs. Fly did an excellent job, but she had no training for working with a non-verbal child. We still were searching for answers. Ashli contacted pneumonia in February of that year. She spent eight days in the hospital, was unresponsive to antibiotics, and made a slow comeback.

In 1988, a new teacher was hired for the severely retarded class. The class consisted of three girls. The new teacher could give her time completely to the needs of these three non-verbal girls, but she was at a loss as to how to help with communication. They worked on simple activities that were appropriate for them, but still needed a communication program. The other two girls came from backgrounds that would not push for more to be done, but with constant urging from Dr. Nathanson, I asked for more.

In August of 1989, Jeanette Dixon, Special Ed. Coordinator, contacted Phillip Wright at RESA and asked for help. He in turn contacted Dr. Carolyn Watkins and asked her to evaluate Ashli. This is where my presentation starts today. This is the story of a cohesive program between home, daycare, school and therapy and the gains we have made in the last two years...**This Is The Search For Answers!**

BIOSKETCH ON SHARON MEEK

Sharon Meek, Lekotek and Compuplay Leader, Atlanta, Georgia. Panel of Lekotek parents, Lekotek of Georgia, Atlanta, Georgia.

PARENT COMPUTER USERS GROUP

As more and more families have become users of computer technology through Compuplay and Lekotek of Georgia's computer loan program, a new need has arisen in the community:

- Lekotek of Georgia sees a need for long-term technological planning and monitoring for the child with special needs.
- Lekotek of Georgia sees a need for the family to be the driving force in establishing a child's technological management team. The team concept would assure information exchange and continuity.
- Lekotek of Georgia sees the family-driven technology team as a positive support for the child's educational program.

Lekotek parents are in the process of creating a parent technology networking system. The initial step is the establishment of a "parent computer users group". Lekotek of Georgia staff assist the parent's efforts with ongoing technical support, but are attempting to empower the parents of children with special needs to create their own technology network.

One of Lekotek of Georgia's parents defined the family's role in the following words:

"It is the family who is the one constant, motivating force behind the development of a special needs child. It is the family who becomes the "self-made" advocate of medical and therapeutic services, education and recreational programs for its special needs child. It is the family who implements the medical, therapeutic and educational programs after the child leaves the hospital, clinic or classroom", (Bruce Lindemann).

A panel of Lekotek parents will discuss not only the workings of the Lekotech Computer Users Group, but also their attempts to begin personal technology teams.

The panel will include in the discussion the following topics:

- Use of technology in the home with preschool children with special needs.
- Attempts by the families to gather information about technology that may be helpful for the child with special needs.

- The parents effort to secure assistive devices and training.
- The parents effort to coordinate professionals in developing their child's technology and educational future.

All parents on the panel are regular users of technology in their homes.

BIOSKETCH ON DOCIA M. BLALOCK

Docia M. Blalock has worked in the library and information business since 1976. She has picked up experience and war stories from her jobs with the Atlanta-Fulton County Public Library, Baker and Taylor book wholesalers, Fannie Mae Software, and The Education Group of Communicorp. Her present position as Manager of Center for Special Needs in Gwinnett County's Lawrenceville Library provides daily challenges and satisfactions in providing high tech services to special needs users.

A LOOK AT GWINNETT COUNTY'S CENTER FOR SPECIAL NEEDS

Our slide show offers viewers at the Touch the Future Conference a look at how one specialized library serves its patrons through high tech equipment and adaptive software. For some conference goers, this will provide a context for how the equipment they are seeing in the conference exhibits can be used.

A number of libraries in the country offer services to the disabled ranging from large print books and homebound delivery; to Talking Books, adapted toys, and computers. We believe we are the first library in Georgia to offer a variety of high tech equipment and services to the disabled.

Two events occurred in Gwinnett County, Georgia, in 1986/1987 to inspire thoughts of introducing new library services to the disabled: voters approved a $16 million bond referendum to build eight new libraries and two librarians attended a workshop on serving disabled patrons, that featured Mary Roatch of the Phoenix Public Library's Special Needs Center.

With the Phoenix Special Needs Center as our model and Mary Roatch as our mentor, staff developed plans for a similar special needs center in the new Lawrenceville Library. The research, planning, purchasing, and set-up of the center took nearly three years. In June 1990, the new Lawrenceville Library opened to a rush of patrons; by September the Center for Special Needs had its staff up and trained and ready for business.

Because of the bond money, we were able to outfit our center with a Kurzweil reader, IBM-clone and Apple computers, Braille, Laser-Jet and Quiet-Jet printers, a Braille & Speak portable note taker and a Perkins Brailler. All of Gwinnett County's libraries have TDDs and VTEK closed-circuit television devices for viewing enlarged text or images. The VTEK in the Center for Special Needs is interfaced with a personal computer, so users can simultaneously view their source documents and a word processing screen.

For our patrons who are hearing impaired, we offer telephone reference via TDD, closed caption decoders for seven day loan, a captioned video collection, as well as sign language instruction books and videos.

The Center is staffed by two fulltime librarians, a fulltime library assistant, and two 20-hour assistants. This staffing enables us to be open Monday through Saturday, 10:00 a.m. until 5:30 p.m. We are open on Tuesday evenings until 8:30 p.m.

When the Center opened, we felt the services we offered were a "shot in the dark" to some extent, because we did not know who would uses them. Over time we have been discovered by the Gwinnett County Schools special education teachers and their students, college students, and professionals working with the disabled. Our use patterns are not consistent or very predictable. For instance, some Saturdays are very busy and others are not.

One real difficulty we see is the lack of public transportation in the county. Gwinnett County is a mix of urban, suburban, and rural in one. It has undergone tremendous growing pains in the past ten years; new people, roads, shopping centers, and schools. Our libraries are in new, accessible buildings, but our users cannot get here except by private vehicle or school bus during school hours.

We are still in an evolving state as far as services are concerned. Our base equipment probably would not change much, but as more people learn about the center and we learn about our potential users, our response may include additional learning software and power pads and the introduction of programs for our young patron.

GRANTS AND FUNDING

BIOSKETCH ON LYNN CHIU

Lynn Chiu has, as a parent and a member of the Governor's Council on Developmental Disabilities, been researching applications of technology for people with disabilities for the last five years. Along with a group of other individuals with a similar interest, Lynn saw a need for a Center in Georgia. They founded Tech-Able in May of 1989 and became an ATA Center in March of 1990.

BIOSKETCH ON PAM HARNDEN

Pam Harnden is a speech pathologist whose special emphasis is in augmentative communication and computer access. She is currently the Director of T.A.S.C. (Technology Assistance for Special Consumers), an ATA Center in Huntsville, Alabama.

THE ALLIANCE FOR TECHNOLOGY ACCESS: IT'S ROLE NATIONALLY AND LOCALLY

The Alliance for Technology Access (ATA) is a growing movement of people who are redefining human potential through the most powerful and imaginative application of computer technology. The Alliance is a national Partnership among non-profit organizations whose members share a common vision and an uncommon commitment to improving the quality of life of children and adults with disabilities. ATA (formerly called National Special Education Alliance - NSEA) was born out of the desire to demonstrate how technology can be used to transform limitations into opportunities. The mission of the ATA is to increase awareness, understanding, and implementation of microcomputer technology to aid individuals with disabilities, their families, educators, health professionals, public officials, and employers. Our end goal is to empower individuals with disabilities with the means to control and direct their own lives.

The uniqueness of this new organization is that it is a powerful vehicle for promoting rapid improvements in services for people with disabilities in many different parts of the country. This is true because of the power of the new technology which we are helping to bring to the attention of parents, professionals, and programs; because of the power and persistence of the parents and consumers who help fuel the engine of change; because of our ability to tap into the latest and best ideas and solutions through our telecommunications network, our close ties with Apple Computer and other technology vendors and developers; and because of the reputation our affiliates are developing as valuable resources to people who run a wide variety of programs for people with disabilities.

A nationwide coalition of community-based, nonprofit organizations and technology vendors, the ATA exists today largely due to the original vision and energy displayed by two groups: Apple Computer, Inc. and the Disabled Children's Computer Group (DCCG), emerging in 1983, DCCG was a grassroots movement of parents of children with disabilities working together with teachers and other professionals, Now, supported by a membership of over 1,500 individuals throughout the San Francisco Bay Area, DCCG provides a comprehensive program of service designed to increase access to computers in home, classrooms and the workplace. At the core of DCCB's programs are consultation services, hands on workshops, training for professionals, guided problem solving, and technical assistance to the hundreds of families, individuals and agencies seeking access to technology. Also offered are an extensive lending library of computer software, assistive devices, print resources, training films, and adapted toys.

At the same time DCCG was gaining momentum, Apple Computer was cementing and strengthening its commitment to this field through the establishment of the Office of Special Education and Rehabilitation. With a corporate mandate to increase technology-related opportunities for disabled individuals, the office quickly identified the potent partnership between industry and community that would maximize the results of all efforts each contributing its resources and connections toward the achievement of this goal. This fundamental understanding translated into the establishment of a local alliance that triggered a national collaboration. ATA demonstrates how a community/industry partnership forged on a national level can have dramatic impact on the most local level, changing the world one person at a time.

The Alliance for Technology/Access is the logical and natural mechanism for coalescing and channeling the resources that can implement and support these exciting changes. By developing a national network of innovative computer access centers like DCCG, the Alliance has established a means for delivering critical technical assistance to people who up until recently had no idea about the transformational power of technology.

In a field which is advancing rapidly, information sharing is the key to fulfilling the mission of the Alliance. To facilitate the rapid flow of crucial information, ATA members are electronically connected to each other as well as to major national information sources through AppleLink , Apple Computer's communication network. This telecommunications system allows people to share their homegrown solutions along with insights on using the most sophisticated products on the market. The electronic linking of centers now means that communities are not working in isolation, but are supporting each other to achieve greater combined goals than those attainable by any single center. The existence of the network frees centers from researching subjects that others have already explored and enables them to focus their precious resources on the vital activities of building partnerships with local educational, health, social service, and business communities. These partnerships that begin with the sharing of resources lead to the generation of real solutions that not only help to sustain the individual computer resource center but also result in the improved quality of services throughout the community.

ATA is strong because each of its member centers is strong. Relying on the resourcefulness and creativity of largely volunteer staff and board of directors, they have succeeded in building viable independent programs. Reaching out to every sector of the community, each center is establishing the broadest possible base of ongoing support. Developing memberships and a cadre of dedicated volunteers they are maximizing the potential of the most valuable community resource available.

Each center derives its strength in large part from the talents within its own community. The Alliance as a whole draws its vitality from these dynamic and growing networks starting with a charter group of 11 resource centers and 25 representatives of the technology business community, ATA developed the framework that sustains continued growth and expansion. Currently, 43 centers representing 32 states belong to the Alliance and it is our goal to include a center from every region of the country within the next year.

BIOSKETCH ON PATRICIA M. BEATTIE

Patricia M. Beattie is on the staff of the Technical Assistance Project at RESNA, the Society for the Advancement of Rehabilitation and Assistive Technologies in Washington, D.C. From 1982-1989, she was a Community Consultant for the American Foundation of the Blind, working in eight Mid-Atlantic states. Pat has been active as a disabilities rights advocate since the mid-1970's, working in her native Ohio, the state of Virginia and on the national and international scenes, having worked with blind women in Latin America and currently serving as Vice President of the Council of Citizens With Low Vision International.

CHOICES AND CHANGE: PROGRESS TOWARD GOALS OF THE "TECH ACT"

RESNA, an interdisciplinary association for the advancement of rehabilitation and assistive technologies, was awarded a three year contract in October, 1989 by the National Institute on Disability and Rehabilitation Research (NIDRR). The purpose of this contract is to provide technical assistance and information to states on the development and implementation of a consumer responsive statewide program of technology related assistance under the Technology Related Assistance for individuals with Disabilities Act of I988 (p.l. 100-407).

The purpose of Title I of this act is to provide discretionary funds to States on a competitive basis to develop such a system. The 22 states currently receiving funding under this "Tech Act" are Alaska, Indiana, Maryland, Nebraska, Oregon, Virginia, Arkansas, Iowa, Massachusetts, Nevada, Tennessee, Wisconsin, Colorado, Kentucky, Minnesota, New Mexico, Utah, Illinois, Maine, Mississippi, North Carolina, and Vermont.

NIDRR will be funding additional states each year. An announcement is expected in the spring of 1991 for funding of perhaps another eight to ten states. It is hoped that all 50 states and territories will be funded by 1995.

Under Title I of the "Tech Act" grants were awarded to fund projects in loan programs, model demonstrations, research and development. In addition, contracts were awarded to pay for two national studies: one on financing of assistive technology services and another on the feasibility of establishing a national information and program referral system.

RESNA's technical assistance contract, which comes under Title I of the "Tech Act", provides the resources for it to:

- Develop technical assistance plans for the States receiving funding under p.l. 100-407;
- Produce a directory of expert consultants in assistive technology services;
- Publish a newsletter A.T. Quarterly, and other written materials on the delivery of assistive technology services;
- Provide states access to an electronic bulletin board designed to share information among states and interested parties;

- Design an evaluation package to analyze states progress towards the development of a consumer-responsive assistive technology delivery system;
- Host three meetings especially designed to meet the needs of states as they develop their state systems;
- Bring together an office of professionals in the area of assistive technology who can provide on-going support to States and individuals;
- Organize a library of information which will foster the development of assistive technology services; and
- Provide technical assistance to states and other interested parties through visits, telephone or by mail on developing consumer-responsive systems of assistive technology.

One of the first areas of concern for all of the states, and for many consumers and advocacy organizations has been funding. At first, State project directors sought information on private insurance. Insurance issues, both in the private sector and in federal/state programs, such as Medicaid, were explored in depth as part of a workshop in March, 1989. RESNA Press has published an album of six cassette tapes from sessions recorded about programs that fund technology for kids and for adults.

Information about assistive devices and services was another immediate concern as states began implementing plans for information centers,"hotlines" and training programs for consumer, families and professionals. The first electronic information program product provided to State projects was HyperABLE-DATA, a database on assistive devices developed by the TRACE Center. The first print product was a directory of on-line bulletin boards, networks and databases.

Questions arose about implications for states of inclusion about compliance with Section 508 of the Rehab Act into eligibility for funding under the Tech Act. (Section 508 requires equal access to computers and automated information processing systems by users who are disabled.)

There has been much demand for sharing of information about innovative approaches to funding (such as Maine's bond issue-generated low-interest loans); information resources (such as the quality assurance indicators developed by the S.M.A.R.T. Exchange); service delivery models (such as the "supermarket" approach of an independent living center in upstate New York); training materials (such as the videotape of a mom revealing her pride at her pre-schoolers independence in his little blue jeep); equipment library loan polices (dealing with issues such as deposits and liability) mobile van outreach to rural areas and under-served populations (such as Native Americans); use of fiberoptic interactive television and other new technologies to reach out to the North Woods or to isolated rural areas. At the TA Project's first National Meeting of States, when directors of the first nine funded State projects began to "network" with directors of the 13 State projects funded in the second year, it was interesting to hear the "pioneers," advice: hire your staff as soon as you can, get your sub-contractors up and running, and learn how to work around state purchasing and personnel regulations.

Many of the states now are beginning to take a more knowledgeable look at State Plans, the "individualized plan" processes and draft changes they can propose in state policies and legislation. Moving toward "systems change" is requiring inter-agency cooperation, listening to feedback from consumers and a willingness to move toward new frontiers, not only in development of new technology, but where individuals of all ages with disabilities can get the devices and services they need for independence in play, school, work and integration into the life of the community. RESNA is excited about the role it is privileged to have in helping make it all happen.

BIOSKETCH ON LAWRENCE H. TRACHTMAN

Lawrence H. Trachtman is the Research and Demonstration Coordinator for the Center for Rehabilitation Technology Services, part of the South Carolina Vocational Rehabilitation Department. Mr. Trachtman assists in designing, planning implementing and evaluating model assistive technology services in South Carolina as part of NIDRR rehabilitation engineering center (REC) on service delivery. His previous experience includes work in technology transfer, rehabilitation engineering research and clinical services.

BIOSKETCH ON LINDA D. LAKE

Linda D. Lake is a Technology Specialist with the Center for Rehabilitation Technology Services, Columbia, South Carolina. She has had extensive involvement with the planning, development and implementation of the Technology Demonstration Center and the Information Resources Center at CRTS. As a Nova University doctoral candidate, she is investigating technology applications of interactive three dimensional modeling and kinesiological imaging to affect physio-psychologic neuromuscular patterning. She is a member of the Institute of Electrical and Electronics Engineers (IEEE), RESNA and NRA. Avocational interests include adapted athletics, sports and recreation.

SETTING UP AN ASSISTIVE TECHNOLOGY DEMONSTRATION CENTER

Introduction:

The Center for Rehabilitation Technology Services (CRTS) has developed a technology demonstration center (TDC) which services as a resource for disabled individuals, their family members, health care professionals and other interested persons on what is available in assistive aids and devices. The TDC operates as "hands-on" learning center where all interested persons can see, learn about and try different types of adaptive equipment. The TDC, for example, can benefit an employer who wants to help return an injured employee to work, a teacher who needs to evaluate a disabled student with a communication devise before deciding to purchase one, or the family of a child with a spinal cord injury who needs to decide on an appropriate environmental control system for the home. The TDC showcases how assistive technology, both "high tech" and "low tech", can help remove barriers faced by persons with disabilities.

Philosophical Approach:

Appropriate technology means modifications and adaptive equipment that is best suited to helping a person with a disability overcome some functional limitation(s) hindering their independent performance in a job, school, recreation or independent living related task. Appropriate may mean very sophisticated and expensive, or it may mean relatively simple and inexpensive. In an effort to demonstrate what can be accomplished with a variety of technologies, the TDC incorporates a range of commercial products - from computers and environmental controls to simple hand tools and daily living aids. The TDC shows that each type of technology has its place in providing independence to someone with a disability.

A guiding principle in the development of the TDC was that the center be completely usable by severely disabled individuals. In other words, consumers themselves should be allowed to use the products featured and provide feedback to CRTS on their practicality and usefulness. In addition, only products that are available to the public from commercial sources would be included. Research on prototype devices would not be used because they can sometimes lead to false expectations.

Professional staff at CRTS are available to discuss the aids and devices featured in the TDC and to help consumers make the best choices regarding the possible purchase of adaptive equipment from commercial sources. Staff members show options for technology solutions but do not recommend one particular product over another. The TDC does not loan equipment, nor does it supply funds for purchasing equipment for any programs or individuals.

Design of the Technology Demonstration Center:

The three functional components of TDC are assistive aids and devices, adaptive environments and demonstrations modules.

Assistive Aids and Devices:

These include aids and devices from the various categories of technology. The goal is to eventually cover the major categories, although probably not in depth in any one area, by obtaining representative samples of equipment. The technology categories include:

- Mobility
- Work Aids/Devices
- Computer Access
- Recreation
- Daily Living Aids
- Fabrication Tools
- Communication
- Education Aids
- Environment Control

Adaptive Environments:

Adaptive environments showcase applications of technology in specific situations. Functional environments that are currently set up include a model office, an education setting, and a fabrication/production workbench area.

Demonstration Modules:

These include supplies and materials (plastics, wood, various tolls, etc.) used to demonstrate design and fabrication capabilities for solving technology related problems.

Development Plan:

A three-phase approach was used to begin operation of the TDC.

Planning:

Planning activities included an assessment of selected commercial products, their costs and availability. Input from consumers and professionals was used to solicit ideas and to help compare different products of similar function. Planning also involved the layout and design of the TDC itself. Furniture was ordered which met accessibility criteria and fit within the space constrains of the room being used for the TDC.

Implementation:

Implementation included ordering, receiving, set-up and staff training with the various products in the TDC. Most devices were purchased, some were loaned or donated. Displays and signage were prepared to provide the TDC with a user-friendly atmosphere. A file system was implemented to store information for the products featured in the TDC.

Utilization:

CRTS is currently increasing the public's awareness of the TDC, providing orientation and training with the various devices featured, and arranging classes and workshops on selected applications of the products in the TDC. The TDC can be used by service providers as an assessment center on the vocational, educational and independent living capabilities of disabled client who use assistive technology.

Acknowledgement:

Support for the setup of the TDC was generously provided by the South Carolina Vocational Rehabilitation Department, the National Institute on Disability and Rehabilitation Research, and South Carolina Developmental Disabilities Council.

BIOSKETCH ON DR. MICHAEL HANNUM

Dr. Michael Hannum, Ed.D. is with the Department of Special Services Education, University of Tennessee in Knoxville. He participated on the Ad Hoc Committee on Assistive Technology which contributed to the development of the Tennessee Initiative Proposal.

BIOSKETCH ON WANDA WILLIS

Wanda Willis is the Executive Director of the Developmental Disabilities Planning Committee in the State Department of Mental Health and Mental Retardation. She was a member of the Ad Hoc Committee on Assistive Technology and is Director of the Management Team which is responsible for the implementation of the project.

TENNESSEE TECHNOLOGY ACCESS PROJECT: A P.L. 100-407 INITIATIVE

The 100th Congress, in establishing a rational for the promulgation of the Technology-Related Assistance for Individuals With Disabilities Act of 1988 Public Law 100-407), has made the following findings:

1
During the past decade, there have been major advances in modern technology. Technology is now a powerful force in the lives of most residents of the United States.

2
For all individuals, technology can provide important tools for making the performance of tasks quicker and easier.

3
For individuals with disabilities, assistive technology is a necessity that enables them to engage in or perform many tasks. The provision of assistive technology devices and assistive technology services enables some individuals with disabilities to (a) have greater control over their own lives; (b) participate in and contribute more fully to activities in their home, school, work environments, and in their communities; (c) interact to a greater extent with non-disabled individuals; and (d) otherwise benefit from opportunities that are taken for granted by individuals who do not have disabilities.

The rationale for the Law continues with additional finding which further define the need for providing Federal financial assistance to states.

The State of Tennessee is one of twenty-two (22) states currently funded to implement the provisions and principles of P.L. 100-407. Tennessee's successful application systematically presented legislative activities related to technology for persons with disabilities; it further described the remaining barriers and ultimately described how, through the resources within the state plus the funding and technical support provided by the Act, a comprehensive system for meeting the technology needs of individuals of all ages and disabilities can be achieved.

Given the multiple similarities between the State of Tennessee and the other states participating in this Third Southeastern Regional Conference, a natural networking of ideas and resources should emerge from our discussion of the Tennessee P.L. 100-407 Initiative. It is our purpose to articulate and bond with those in our neighboring states whose vision for the enablement and empowerment of those with disabilities is similar to ours.

TENNESSEE TECHNOLOGY ACCESS PROJECT: A P.L. 100-400 INITIATIVE
Michael Hannum, Ed.D., University of Tennessee
Knoxville, TN 37996-3400

Wanda Willis, Executive Director,
Developmental Disabilities Planning Council
Department of Mental Health and Mental Retardations

Our presentation will include the flowing components:

a. Strategies used and results of the technology needs assessment;
b. project goals and objectives, with timeliness;
c. state assistive technology service delivery system;
d. the management plan; and
e. the evaluation plan.

BIOSKETCH ON JAN WEBER

Jan Weber is director of the KATS Network, the Tech Act project in the state of Kentucky. Previous to her appointment to that position, she was the Technology Consultant for the state Office of Education for Exceptional Children.

BIOSKETCH ON DAVE MATHEIS

Dave Matheis is the Information Specialist for the KATS Network and the Administrator of the KATS Network statewide bulletin board. He has worked in a variety of positions in the field of vocational rehabilitation over the past 14 years.

KENTUCKY ASSISTIVE TECHNOLOGY SERVICE NETWORK

Kentucky was one of the first nine states to be funded by the Tech Act of 1988 (P.L. 100-407) to develop a statewide system of assistive technology services. The funded project was named the Kentucky Assistive Technology Services (KATS) Network and it is being administered by the Kentucky Department for the Blind. A major effort of the KATS Network is information dissemination which will be accomplished chiefly by placing an information center in each of the state's I20 counties that will be linked by modem to the KATS Network Coordinating Center in Frankfurt and to the SpecialNet information services. These centers will be made available to all consumers, parents, caregivers, and professionals who are seeking information on assistive technology. They will have access to the many bulletin boards on SpecialNet, to a statewide bulletin board on assistive technology administered by the KATS Network, to several data bases including one consisting of Kentucky service providers, and to the Assistive Device Locator System, a software package designed to assist the consumer in selecting appropriate assistive technology. It is envisioned that this extensive information network will improve consumer knowledge of what assistive technology is available, how it might be funded, and how the service delivery system works thus increasing access to the technology itself.

The effort to develop the system of country information centers began with the identification of possible sites for the centers throughout the state. A mailing list data base was developed that included country libraries, local offices of the Departments of Vocational Rehabilitation, Social Insurance, and Mental Retardation, colleges and universities, special education cooperatives, parent resource centers, and local schools districts. Everyone on the list received an invitation to apply to become a center. Simultaneously, discussions were conducted between the Coordinating Center of the KATS Network and the state offices of the Departments of Vocational Rehabilitation and of Libraries. Both of these agencies responded with great interest and encouraged their local branches to apply. Contact was also made with the state Office of Education for Exceptional Children and with an umbrella organization of advocacy groups, the Kentucky Coalition for People with Handicaps. From the applications received, the first forty of I20 centers were selected. They included county libraries, local office of Vocational Rehabilitation, local school districts, vocational schools, local outreach centers of advocacy groups, and universities.

Each center will be supplied with telecommunications software, a modem, a subscription to SpecialNet, a copy of a software package entitled The Adaptive Device Locator System, and a small operating budget to pay for necessary supplies. In return, each center will supply to the Network an accessible location, a computer that can be made available to a consumer, parent, professional, or other interested party on a walk-in basis, and a staff member to assist with computer access as necessary. The designated staff members of the first forty centers will be trained in the use of the telecommunications software and SpecialNet.

At the same time that possible sites were being identified and selected, the KATS Network Coordinating Center was doing the groundwork for the information network. This began with current KATS Network staff familiarizing themselves with SpecialNet. The SpecialNet information system will serve as the foundation for the information network. Each center will be given a SpecialNet subscription. SpecialNet consists of various national bulletin boards and data bases of interests to people with disabilities, professional, and advocates. In addition, the KATS Network will maintain its own bulletin board on SpecialNet. This statewide bulletin board will be used to keep the centers up-to-date on developments in the field of assistive technology with a special emphasis on those items important to Kentuckians with disabilities. The KATS Network Information Specialist is the administrator of this bulletin board and will be responsible for its maintenance. SpecialNet will also be used as the means of on-line communication between the information centers, the Coordinating Center, the two KATS Network Regional Centers, the KATS Network Research and Development Center, and other agencies and individuals who have subscription. All of these parties will be able to communicate with each other through the use of electronic mail and, in this manner, people can send requests for specific pieces of information to the Coordinating Center which will be maintaining several data bases. These data bases will include information on Kentucky providers of assistive technology services, on all the possible funding sources for assistive technology, and on national resources. Plans also call for the use of SpecialNet to access a statewide data base of all service providers who provide any type of services to persons with disabilities. This data base is managed by an organization called Directions and discussions are currently under way on the best method for implementing this access.

In addition to the SpecialNet services, some information from other sources will be provided to the county centers. As stipulated in the original proposal to NIDRR, each center will be given a copy of the Adaptive Device Locator System (ADLS) software package. This package is designed for a consumer or professional to use to locate appropriate assistive technology. By responding to various questions, the user can narrow down selections until they are presented with the optimal device. The Coordinating Center is also planning on providing each center with a small instructional package that it has developed concerning the funding of assistive technology. A small data base of service providers in each county will also be supplied to the centers that they will be responsible for maintaining.

The underlying purpose of the county information centers is to provide extensive information on assistive technology directly to the consumer. This will insure maximum involvement of the consumer or the consumer's family in the selection and acquisition of needed devices. This will also help ensure that, as mandated by Tech Act of 1988, the KATS Network will be responsive to the needs, wishes and desires of the consumers that it is intended to serve.

BIOSKETCH ON SHELLEY KAPLAN

Shelley Kaplan has a Masters of Science Degree in Communication Disorders and has 16 years of experience in the field of rehabilitation. Ms. Kaplan is the project director for The S.M.A.R.T. Exchange, a NIDRR-funded project designed to increase the quality of assistive technology services throughout the Southeastern Region of the United States.

BIOSKETCH ON BONNIE WEBB

Bonnie Webb has a Masters of Science Degree in Speech Pathology and has 19 years of experience in the field of rehabilitation. Ms. Webb is the Information Coordinator for The S.M.A.R.T. Exchange and has expertise in augmentative communication and technology access. Ms. Webb is quoted for her ability to develop effective information exchange and technical assistance networks on statewide and national levels.

THE WHEEL OF FUNDING

Program staff and the consumers they serve are often faced with frustration when seeking funding for assistive technology services and devices. This frustration occurs in all service areas and across all age groups. At present, clearly defined reimbursement practices in state, federal, and private insurance do not exist, leaving discretionary decisions in the hands of the individual reviewing the reimbursement claim. Listening to people who have faced these problems in conjunction with researching the now abundant literature available about funding strategies and approaches, has led Ms. Joy Kniskern, Rehabilitation Technology Manager, Georgia Division of Rehabilitation Services, to identify two apparently contradictory statements: (1) The lack of available funding for devices and services is cited as the major barrier to obtaining them; and (2) Paradoxically, some authorities have claimed that, "Funding is always available!" ("How to Obtain Funding for Augmentative Communication Devices", Prentke Romich Company, 2/89). BOTH STATEMENTS ARE TRUE.

The S.M.A.R.T. Exchange believes that organizations and service providers have an obligation to guide individuals through the funding process and guarantee the procurement of assistive devices and services to enhance independence and productivity at home, school, work and in the community. According to the Quality Indicators Applicable to Assistive Technology Service Delivery, developed by the project, the following funding criteria are components of exemplary assistive technology service delivery systems:

4.1 The organization demonstrates the knowledge of established funding options and has written guidelines for its use.

4.2 Specified staff have the responsibility to coordinate funding procedures and explore cooperative funding alternatives.

4.3 A commitment has been made to assist consumers, their families and/or their advocates through an appeal process which is germane to the available funding stream.

4.4 If third party payment is not available, the organization is committed to locating funds from additional sources.

4.5 Innovative options are used to expand availability of technology services and/or devices, (i.e. through loan programs and/or equipment recycling, etc.).

4.6 The organization provides information and training to funding sources and elected officials regarding the benefits of assistive technology services and devices.

4.7 The organization has made a commitment to learning about new funding options and shares this knowledge with others.

Therefore, assistance in this area is a necessary and instrumental service in any comprehensive organization which utilizes technology.

This "unique" session will present an overview of the common issues critical to funding assistive technology in an interactive game format. Participants will be selected to engage in "The Wheel of Funding", a board game, designed to inform participants about the most frequently reported excuses used in the denial of reimbursement claims. Participants will also be provided with strategies for winning at the game of funding assistive technology services by discovering the variety of funding options currently available.

RESOURCES

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Assistive Technology Sourcebook, RESNA PRESS, Alexandra Enders & Marian Hall, Editors, 1101 Connecticut Avenue, N.W., Suite 700, Washington, DC, 1990.

Assistive Technology Service Delivery: Reimbursement Strategies for the Therapeutic Component, Assist Therapeutic Systems, Inc., 1990 Edition, (513) 761-2868.

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Starting the Funding Process, by Suzanne Ripley, National Information Center for Children and Youth with Handicaps (NICHCY), Washington, DC, (703) 893- 6061.

A New Way of Thinking - Getting To Work: Understanding SSI Benefits for People with Disabilities, by Rose Cohen, Patti Green Roth, Michael W. Morris, UCPA, Inc., Community Services Division, 1522 K Street, N.W., Suite 1112, Washington, DC 20005.

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BIOSKETCH ON JOY KNISKERN

Joy Kniskern, M.Ed., CRC, PC, Georgia Division of Rehabilitation Services. Joy has over 15 years experience in rehabilitation with particular expertise as a catalyst for developing synergistic, leading edge programs. Her present focus is to integrate awareness and consumer-responsive use of assistive technology devices and services within all major delivery systems in Georgia.

BIOSKETCH ON CHARLES LORENZ

Charles Lorenz, is with Georgia Division of Rehabilitation Services. Charles is a professional with the Planning, Research, and Special Projects Unit of Division. He specializes in needs assessment and demographic research projects and he has helped in identifying data needs for Georgia's technology initiatives.

BIOSKETCH ON J. D. FRAZIER

J. D. Frazier is a member of Georgia's Advisory Counsel on Assistive Technology Resources and a student at Georgia State University. As a business student and user of technology devices and services, J. D. has strong interest in seeing Georgia open more avenues for consumer access to assistive technology. He has worked closely with Georgia's Advisory Counsel Task Group on Programs of Alternative Financing develop the Trust Fund legislation.

EXPANDING YOUR STATE'S DOLLARS:
GEORGIA'S TECHNOLOGY TRUST FUND AND FAIR

This workshop will inform participants about Georgia's proposed Trust Fund for Technology-Related Assistance and how it will (if passed) be funded through an add-on penalty for serious traffic offenses, (e.g. driving under the influence, reckless driving and speeding). The workshop will blueprint how to host a Technology Fair at your capital as one way to heighten technology awareness of legislators. A packet of educational materials will be distributed at the workshop.

BIOSKETCH ON EDWIN IRWIN

Edwin Irwin is a rehabilitation engineer with eight years experience in analyzing the capabilities of individuals with disabilities and designing adaptive equipment to help accommodate their functional needs. He helped establish a nationally recognized program in Louisiana for evaluating driving capability, and later became the Lead Rehab Engineer for the Commonwealth of Virginia, as well as, the director for the Rehab Engineering Department at Woodrow Wilson Rehabilitation Center in Fishersville, Virginia. Mr. Irwin has since joined Independence Builders, Inc. as Vice President in charge of rehabilitation engineering, and shares his expertise in adaptive technology through lectures, seminars, and workshops across the country.

BIOSKETCH ON PATRICK SCHARF

Since 1985, Patrick Scharf has grown to be a leader in the field of accessibility and client evaluation. His knowledge and experience allow him to write on the subject of accessibility, as well as, consult and present training workshops throughout the United States. His team approach has earned the respects of Occupational and Physical Therapists, Rehab Counselors, Engineers, and other rehab professionals.

ACCESSIBILITY IS MORE THAN A GRAB BAR

Everyone has special needs, some more disabling than others. For those needs that require modifications to the home, there must be an understanding of the individual's needs with relation to the environment and the task to be performed. Accessibility is by assessment and design, not by standards and chance.

To assess a bathroom for modifications, first the user must be assessed for strengths and weaknesses applicable to each task. Each task should be divided into stations, for example, taking a shower, washing at the sink, using the commode, etc. Once each station is addressed individually, they can be modified together as a unit to assure smooth transitions from one station to another.

Beginning with the shower, the first concern will depend on the ability of the user to enter the shower area. It must be determined if the user will step in, slide in, roll in, or be lifted in. It should also be clear if the user will be assisted or not. Individual considerations should be given to the user's arm, hand and leg strength, balance, visual perception and muscle control. These considerations are important for both accessibility and safety.

Starting with some basic changes like, grab bars, bath benches, hand held showers, and faucets, the shower is made more accessible and safe. Grab bars should be located on an individual basis, however, some common locations are: a vertical bar at the point of entry, and a horizontal bar on the back wall and above the faucet's typical location. The height will vary depending on the height of the user and whether the user is sitting or standing. The best way to measure for the location is to perform the task and mark where the hands reach for balance or strength. This procedure may require additional assistance. The bars used for strength should be long enough to accommodate movement in the desired direction. It is important to note that a grab bar improperly located can be more dangerous than none at all.

The bath bench that extends outside the tub area is perhaps the most under used safety device for the shower. With it, the user can sit down before stepping into the tub, or the bench can make a slide transfer much earlier. Once seated, the user can safely lift the legs over the tub side and avoid a dangerous fall. For better personal hygiene, the open seat design would be recommended. Many tub lifts offer a variety of seats with varying purposes. These lifts offer safety and convenience, but can reduce the quality of hygiene.

For the roll in shower, a wall mounted seat would offer more stability, however, if an attendant is helping, the bench will allow more freedom to get behind the user. Another alternative is the roll in shower chair which offers more mobility from one station to another.

For multi-use showers, a hand held shower with a glide rail system would be ideal. The glide rail offers different shower heights with little adjustment. It can also make the shower ambidextrous by mounting the rail on either side of the shower. With a snap coupling system, the shower heads can be switched with accessories like a bidet attachment. If an attendant is helping, a longer hose can be used for easier access to both sides of the user.

Leaning to reach the faucet to avoid a scald can be avoided with some simple changes. Placing the faucet on the back wall where the user's hand lands will increase safety and efficiency. The faucet recommended is the single lever type. A scald-guard feature is also recommended. If the single lever type is not used, be sure to use blade type handles for the two or three handle faucet. Some faucets are available with a temperature setting feature. Before these are installed, be sure that the user can manipulate the handle(s).

Another tip for shower is to use a liquid soap dispenser for the soap and shampoo. This can prevent a bad fall, and be more accessible for those with limited hand use. Always have a non-slip material on the tub or shower floor.

The sink is very basic. The height will vary depending on the user's requirements, however, thirty inches from the floor is a common figure. The faucet recommended is the single lever type with the ball design, instead of the cartridge type. The drain should be back enough to avoid the legs, and the drain pipes should be insulated to soften an occasional bump and to avoid a possible burn. The ideal sink layout has a countertop with drawers underneath and at least thirty two inches of width between the cabinets. There should be enough outlets conveniently located to plug in whatever devices are necessary. These outlets should be the Ground Fault type in case of an electrical failure.

The mirror should be at a height that best suits the user. Be sure that the location of the sink on the countertop will allow the user to bow the face for washing, and the faucet is located for easiest use. It may also be helpful to use a liquid soap dispenser at the sink.

Using the commode can come in several forms. Some may require grab bars and a raised seat, while others may not sit on it at all. Just because the standards call for a higher seat doesn't mean that every individual is comfortable using one. Safety and comfort are important when attiring a commode. If the user is obese, be sure that the equipment used is sturdy enough, as well as comfortable. Many safety frames and grab bars are available, and to determine which to use is like measuring for grab bars in the shower; perform the task and mark where the needs are. Start with a basic safety frame, and add bars wherever they may be necessary. For applications where no walls exist, or more support is needed, a floor to ceiling pole is available for use anywhere in the room.

If the user cannot enter the room, widen the doorway. If this cannot be done, use a roller type shower chair, and set up a transfer station to get from the hall into the bathroom.

Many unusual situations come up each day. With a little ingenuity and a lot of understanding, the solution is just around the corner.

Patrick Scharf is an accessibility expert with Independence Builders. His prime function is assessment and design, as well as educating professionals and the public. For more information, contact Independence Builders, Inc. at 1718 Rugby Ave., Charlottesville, Virginia 22901, (804) 977-5516 or 1 (800) 562-0669.

INTERACTIVE LAB

BIOSKETCH ON SUSAN JOHNSON TAYLOR

Susan Johnson Taylor is currently an occupational therapist at American Rehab, Inc. in Norcross, Georgia where she provides seating and mobility. Prior to that, she was with the University of Tennessee Rehab Engineering Program in Memphis, Tennessee for ten years, involved in seating, clinical seating research. She has lectured widely on the topics of seating and powered mobility.

PRINCIPLES OF SEATING AND MOBILITY

Seating and mobility technologies are powerful tools. An appropriate seated position can augment a client's skill and abilities as well as provide a means to extend treatment goals beyond actual hands-on treatment sessions. Seating is usually a prerequisite for evaluation for access to other technology devices. Mobility devices offer freedom of movement and independence to an otherwise dependent individual. Professionals involved in the seating/mobility process, regardless of whether or not they actually evaluate for or fit the devices, must be knowledgeable of the factors which contribute to that process.

As the process of evaluation is begun, the entire team involved with the client (including and especially the client/family) must be aware of the benefits as well as the limitations of seating. Often, the seating device is seen as the "end all solution" to a client's problem. While seating can offer significant physical, functional, and psychosocial benefits, it is a stationary device which will require changes and modifications as the client begins to use it in their varied environments. (1,2) Seated positioning can be described as an ongoing process that is fine-tuned and modified as the client's needs change should be followed by regular reevaluation.

The availability of seating technologies and methods have exploded in the last eight years. With the field becoming so large, seated positioning has become a specialty area for many therapists involved in rehabilitation. The role of the specialist is to provide expertise in the use of seating technology, and to interface with the client and members of the client's rehab team. They must established clear communication of goals for the device/client between the client, family members, and those who work with the client on a regular basis (therapists, social workers, teachers, employers, etc.).

Goal for seated positioning include the following: to normalize abnormal tone; decrease the influence of primitive postural reflexes; prevent, delay, or accommodate deformity; maintain skin integrity; improve physiological functions; maximization of functional skills; comfort; and enhancement of overall quality of life. Primary goals differ depending on the diagnosis and severity of physical involvement. For example a profoundly retarded young adult with cerebral palsy, who has multiple, fixed orthopedic deformities will have different goals than a bright, mildly involve individual with cerebral palsy of the same age. Goals for the former would revolve primarily around accommodation of deformity and comfort. The second individual's goals would begin with reduction of the influence of tone and reflexes to maximize functional skills.

Areas which are assessed include tone; primitive postural reflexes; orthopedic involvement; sensory status; ADL considerations; education/work history; and psychosocial considerations.

Once this assessment is complete, it is followed by evaluation in a seating simulator of some type. This is one of the most important steps in the evaluation. The simulator allows a mock-up of the actual desired seated position. It also facilitates clear communication between the therapist and technical person who builds the device. The client can be observed in varied positions, resulting in the team being able to have a complete prescription by the end of the evaluation. In addition, access to other technical aids, such as powered mobility, communication, and computers can be assessed while the client is in the in the simulator.

Often, a seating simulator is mounted on a powered wheelchair base. Powered mobility is considered for those clients who are not able to propel a manual chair in an energy efficient manner. A seating simulator on a powered wheelchair base enables a client in a functional seated position to actually drive a powered chair during the assessment. There is no substitute for client initiated movement through space. The therapist can observe the effect of movement of tone, posture, and judgment. With so many means of accessing powered chairs available, that it also allows the therapist to try various switches/positions of switches. Key factors in selection of a powered base include, transportation available, adjustability of electronics and growth ability. If manual mobility is being recommended, the therapist must determine if the client will independent base (propelling self) or dependent base (being pushed). Portability, adjustability and the environment in which it is to be used are key factors in selecting a base.

Careful evaluation and fitting of the client with consistent follow-up can help assure a successful seating and mobility outcome.

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BIOSKETCH ON DON KINDER AND JOE PULLEN

The authors are both administrators within the Georgia Learning Resources System working as consultants to both school systems and individuals with disabilities. They have a combined experience of 38 years working with special education and a combined experience of 22 years working with assistive technology.

TELECOMMUNICATIONS IN SPECIAL EDUCATION

The use of telecommunications brings an exciting world of information and communication to the fingertips of the special educator. Being able to combine necessary equipment with the right computer software allows the special educator to open up an exciting world of accessing information and communicating with other educators. Telecommunications has made it possible for an individual in one location to more easily make contact with others who have similar interests in another part of the country (or another part of the world).

The sessions will address the use of the computer as a tool to access various sources of information available to special education and to communicate with other special educators. Topics to be covered include hardware, software, terminology, and demonstrations of various telecommunications uses of the computer available to persons in special education. The presentation will highlight several specific sources of information and demonstrate how to access those sources. In addition, the presentation will demonstrate how the computer can be used to send and receive messages via telephone lines.

The session will also deal with ways both teachers and administrators may utilize telecommunications to help them with their jobs. Suggestions will be made regarding how to deal with some of the more common problems often encountered when a person first starts to use telecommunications.

Handouts provided will give attendees some of the specific knowledge they will need in order to start making use of telecommunications in their situation. This will include specific hardware (equipment), software, and a variety of sources to help them begin to access information databases and begin communicating with others who use a computer for communication.

BIOSKETCH ON GLEN HODGES

Glen Hodges is a resident of Newborn, Georgia. He has been in the bicycle business for over ten years. About five years ago he met some special kids who never had opportunity to ride a bike because they had physical disabilities. Glen decided to do something about that and has been building bikes to meet specific needs ever since.

ADAPTED BIKES

Children with physical disabilities often miss out on a lot of the fun things in life. Riding a bicycle is one such event. Some of the things that get in the way are strength, coordination, limitations of range, lack of balance, and the absence of limbs. Not only is riding a bike fun, but it is healthy. Glen Hodges met some children whose physical limitations had prevented them from riding a standard bike; he decided to adapt bikes that they would be able to ride.

Working with parents and therapists, Hodges observes the children to see how they move and what would be needed on a standard bike to make them workable. He has made hand driven bikes for kids who could not peddle with their feet. One child needed special handgrips because her elbows were frozen in a bent position. Some children have needed the size of the frame altered or seats repositioned and/or lowered. Sometimes parts are replaced altogether a different kind of seat with more support, foot sandals with straps, handle bars of a new design. Seat belts are added.

Not only are present height and weight a consideration, but can the adaptations be modified as the child grows. As the child's skills and control improve will some of the adaptations need to be reduced to allow the child to do more on his own. How can the bike be arranged to encourage the child to use certain muscles?

Sometimes it has not been possible for Hodges to observe the child in person. With input from a therapist, key measurements and a video tape, he has been able to construct a bike "long distance".

Parents can bring a bike they already have or they can start out with a new one. Glen saves parts from old bikes to try to keep cost down for the parents when he makes the adaptations. Very often requests for his services comes from grandparents.

BIOSKETCH ON MIKE BURTON

Mike Burton is a graduate of S.M.U. in Art and History and is an accomplished sculptor. He has a M.A. in education of the hearing impaired from Georgia State University. He began his career in education of the deaf as Art instructor at the Georgia School for the Deaf in 1969. Since 1985 he has been Director of Programs for the Deaf at Floyd College, Rome Georgia, a unit of University System of Georgia.

BIOSKETCH ON JOHN GOLDTHWAITE

John Goldthwaite is a graduate of Emory University and Georgia State University and is currently a Ph.D. student at Georgia Tech in Information and Computer Science. He has been a Research Scientist at Georgia Tech since 1985; his research interests include computer interfaces for the blind and mobility impaired, educational software technology, multimedia computer systems and virtual reality systems.

AN INTERACTIVE VIDEODISC BASED ENGLISH TO AMERICAN SIGN LANGUAGE GLOSSARY

The preponderance of moderately to severely hearing impaired people in American do not achieve much more than a rudimentary form of the written version of the English language, although many different teaching techniques have been attempted over the last century. English language programs for the hearing impaired primarily rely on remedial type classes and/or English as a second language courses to bring the English reading and writing skills of the hearing impaired student up to at least an 8th or 9th grade level. Unfortunately, these classes have provided only a minimal improvement in the hearing impaired student's English language skills.

ASL is a complete language in which hand movements are combined with facial expression and body movement to represent ideas and relationships. Because it uses complex three dimensional and timing relationships, it is very difficult to express ASL in written form. The closest analog would be musical scores or written representations of dance. Consequently the hearing impaired do not have access to dictionary written in their own language much less an English-ASL dictionary.

Although, a printed dictionary is not practical, a system will be demonstrated based on a interactive videodisc technology. In this system the student reads a book on a computer screen. The computer highlights words that are in the glossary. If the student does not know the meaning of a word, he can press the down arrow until the cursor is on the word it skips over words that are not highlighted) and hit the Return key. The computer looks the word up in its glossary and gives the correct commands to a videodisc which would play the videotaped ASL definition for the word. The ASL video and corresponding English definition is displayed on either the computer monitor or a separate television monitor (the computer monitor version being more expensive for most personal computers).

The results of a study comparing reading comprehension of groups of deaf students reading the same book with and without the glossary will be presented.

BIOSKETCH ON DR. STEVEN RAY

Steven Ray, Ed.D. is an Augmentative Communication Consultant for Adaptive Communications Systems, Inc. Dr. Ray received his M.S. in Deaf Education and Ed.D. in Educational Psychology from the University of Tennessee. He is widely recognized for his publications in the area of "low-incidence children".

COMPUTER ACCESS FOR PERSONS WITH DISABILITIES

Of all assistive technology available to handicapped persons, the computer offers the greatest potential for providing employment and independent living. The computer can serve as a method of producing written output, speech output, as a tool in the workplace and a method of access to products and services from within the home. The computer is becoming increasingly important as a tool for persons (both disabled and nondisabled) wishing to work at home. Many work activities can be done within the comfort and convenience of the home. For a handicapped person, working within the home translates increased potential for employability. When working from one's home, the raw products (information needing to be processed in some way) enter the home via computer modem and the finished product (data acted upon or decisions made) is transferred back in the same manner.

The challenge for many disabled persons is accessing the computer keyboard in an efficient manner voice output. There are a variety of assistive techniques for these persons dependent upon the nature and severity of the handicapping condition.

Keyboard Enhancement Techniques:

Keyboard enhancement is generally accomplished using physical modifications to the keyboard or software enhancements within the computer. Physical modification might include key guards or locking keys to accomplish the various double or triple simultaneous key activations required by many computers and their software. Software enhancements include techniques which accomplish many of the same results of physical modifications but through software only. These techniques include the introduction of latching keys (sometimes called sticky keys), key delays and recover variables. By introducing key delays and recover variables one can reduce multiple or unintentional key activations by most physically limited individuals.

Keyboard Emulation Techniques:

When physical limitations preclude adequate keyboard access using keyboard enhancement techniques, keyboard emulation becomes necessary. Keyboard emulation means that the keyboard of a computer or communication device is simulated with some device which is accessible and the keystrokes passed along to the computer as if they were coming from the keyboard itself. This keyboard emulation can take a variety of forms. Expanded keyboards are frequently used to provide greater target area for the physically limited person to activate.

Light pointing, optical pointing and other indirect methods permit some physically limited persons to access the computer using head pointing and in some cases eye movement. Again the selected response is passed along to the computer by way of the intercept or emulation system. The most physically limited individuals will require scanning or joystick selection techniques. These techniques as well as keyboard enhancement techniques are available on a variety of communication devices and personal computers. The most notable of these are the Adaptive Firmware Card (Don Johnson) and Words + (Words +) software distributed by Adaptive Communication Systems, Incorporated.

Speech Activated Computers:

Recent advances in speech recognition technology have made possible totally hands-free compuoperation by persons with adequate voice quality. Using this system, quadriplegics and other handicapped persons, can operate a computer to perform any function which able bodied persons can perform. The technology has advance to such an extent that handicapped person can now be productive as non-handicapped.

Acceleration Techniques:

Acceleration techniques are indispensable for handicapped users of computers. There are two common techniques of acceleration: abbreviation expansion and word prediction. Abbreviation expansion is a system in which abbreviations are stored and retrieved by a computerized system. Generally, the abbreviation takes the form of combinations of letters, numbers, punctuation marks or pictures. Word prediction systems involve a device which is programmed to predict what the users next word or letter is likely to be based upon either previously stored lists of words, the users previous utterances or both.

Speech Output:

For persons with speech, speech output systems are required. Frequently the same persons who need speech output also needs acceleration techniques. Systems and software capable of both techniques are a must for these individuals. Productivity and ease of communication are critical to this population.

BIOSKETCH ON DR. STEVEN RAY

Dr. Steven Ray, Ed.D. is Augmentative Communication Consultant for Adaptive Communications Systems, Inc. Dr. Ray received his B.A. in Psychology from the University of Mississippi, his M.S. in Deaf Education and Ed.D. in Educational Psychology from the University of Tennessee. He is widely recognized for his publications in the area of "low-incidence children".

LOGICAL LETTER CODING STRATEGIES

This presentation and the following paper describes strategies for using letter codes to accelerate the communication process for augmentative and alternative communication devise users. The system utilizes codes for function words, "function phrases", content words and frequently used sentences.

Electronic augmentative and alternative communication (AAC) devices now equip physically limited and/or speech impaired individuals with the ability to communicate more efficiently than ever before. However, the communication process remains painfully slow for users of these devices, especially when they are also physically impaired. For the AAC device user, acceleration is a critical factor in holding the attention of a communication partner.

When developing letter coding strategies consideration must be given first to selection of the words that the system will employ, the codes to be used to represent the words while minimizing collisions, and the strategy for remembering these codes once they are created.

A second consideration in developing a system requires that a set of codes be generated that is easy to remember and minimizes the frequency of collisions, the occurrence of more than one meaning assigned to one code. Collisions pose the greatest threat to the integrity and usefulness of the letter codes.

The System:

Four categories of codes are presented: Frequently encountered words, frequently encountered phrases, personal words and frequent sentences. Each category follows a specific pattern of development.

The system of frequently encountered words presented and a subsequent set of frequently encountered phrases represent an adaptation of the list published by Vanderheiden and Kelso. An additional 30 codes were added as logical extensions of the 50 most frequently used words used in the study to achieve a total of 80 single word letter codes.

Frequently Encountered Phrases (Function Phrases):

Another group of codes were developed to represent a finite set of phrases made up of function words and some verbs commonly included in lists of frequently occurring words. These were chosen to code because the list is finite and encountered frequently during normal conversation. Many phrases were included which are not necessarily high in frequency. They were retained because they do not require memorization and are logical extensions of the other phrases and words.

Personal Words (Content Words):

Another set of codes were developed to represent content words which are unique to the user. These codes are followed by a special marker, the choice of which is arbitrary.

Frequent Sentences (Idiosyncratic Non-Novel Sentences):

The coding of sentences has the greatest potential for keystroke and time savings for AAC device users. The content of sentences stored will reflect the uniqueness of the individual user, however, the form in which they are stored should follow a pattern which is predictable and replicable. Predictable and replicable patterns should facilitate subsequent recall.

In coding sentences, function, tenses and person must be expressed. The functions and tenses of the sentence are coded with a question mark (?) to indicate questions, a "caret" (^) to indicate imperatives, the greater than (>) symbol to indicate future tense and the less than (<) symbol to indicate past tense. Person is indicated by the position of the markers and the addition of special characters, H, S, I for he, she and it. Combinations of these markers and positions, when added to coded verb phrases, produce iterations for each phrase.

Summary:

In addition to developing a system in an organized manner, it is important to remember that the organization or strategy for developing letter codes should also enhance recall. It is toward this end that this system of logical letter codes is proposed.

The system presented can be used on any device which uses either space delimited abbreviation expansion or special character delimited abbreviation expansion. The software should also accept special characters (i.e.,\,[,],\,?,<,or>). Programs such as Magic Fingers, EZ Keys, Key Wiz and WSKE II (Words Plus, Inc.,1990) which runs on IBM compatible computers or devices such as the RealVoice (Adaptive Communication Systems, Inc.,1990) are suitable for these techniques. The described system will soon be available on preprogrammed tapes for use in the RealVoice.

The author urges professionals who provide and recommend AAC devices to carefully consider the cognitive, linguistic and physical status of clients prior to recommending a device and communication acceleration system.

LEARNING

BIOSKETCH ON BONNIE SCHAUDE

Bonnie Schaude, M.A. CCC, is a speech and language pathologist at Emory University Center for Rehabilitation Medicine specializing in adult cognitive-communication disorders. Ms. Schaude has been involved in research as well as extensive diagnostic and clinical experience in traumatic brain injury rehabilitation. She has conducted presentations in this area at state and national conferences.

BIOSKETCH ON PATRICIA HIGGINS

Patricia Higgins, M.S. CCC, is a speech-language pathologist II at Emory University Center for Rehabilitation Medicine specializing in cognitive- communicative disorders relating to traumatic brain injury. Ms. Higgins has extensive diagnostic and clinical experience in TBI rehabilitation and has conducted numerous in-services and presentations on this topic.

AN EVALUATION PROTOCOL FOR COMPUTER PROGRAMS IN TRAUMATIC BRAIN INJURY

Volumes of commercially available computer software for cognitive intervention are currently on the market. Many of these programs are costly and may not be suitable for the specific needs of the traumatic brain injured patient. Often the program content may be arbitrary, and have no direct application to functional living skills. Knowing that generalization principles and executive functioning are impaired, these patients make certain programs merely drills of a skill in an isolated context with no presentation or development of compensatory strategies. In addition, the program description or sample disc may not afford us with enough information to make an educated guess on it's technical complexity and program flexibility in servicing the variety of levels of patient function. What may result, therefore, is the purchase of a software program which may meet the patient's needs today, but not tomorrow or whose operational complexity reduces a novice's ability to utilize the maximal capabilities of the program.

How do we avoid these outcomes? How can we determine which program will serve our patient's specialized needs and the clinician's basic computer operation skills? The purpose of this presentation is to address these and other questions relating to increasing awareness of the parameters necessary in selection of computer software in the area of cognitive remediation and, therefore, improving our ability to utilize financial resources more efficiently.

This will be accomplished by providing the individual with the following information:

1. An evaluation protocol will be presented compiled of specific factors for consideration when reviewing cognitive retraining software;
2. Demonstration of the application of the protocol to sample programs;

3. Interaction with an array of computer programs categorized according to cognitive/language function;

4. Utilization of protocol parameters in adapting clinical software programs.

Through the application of this protocol measure it is felt that a more standard and efficient decision can be achieved in not only selecting, but developing and utilizing software programs on traumatic brain injury rehabilitation. Incorporation of strategy teaching in software programs can only assist in making arbitrary tasks more functional and facilitate generalization of those skills into a more realistic setting.

BIOSKETCH ON YVETTE MARRIN

Yvette Marrin is President of the National Cristina Foundation.

BIOSKETCH ON KEITH W. WHINNERY

Keith W. Whinnery is a doctoral student in special education at Vanderbilt University. He received his Masters in Guidance and Counseling and School Psychology in 1974 from East Tennessee State University. Current research interest includes effective cognitive strategies for academically handicapped students. (Keith W. Whinnery, Box 328, Department of Special Education, Peabody College, Vanderbilt University, Nashville, TN 37203).

CURRICULUM-BASED MEASUREMENT: EFFECTS OF COMPUTERIZED FEEDBACK ON INSTRUCTION AND STUDENT ACHIEVEMENT

The purpose of this session is to discuss a project, supported in part by an equipment grant from the National Cristina Foundation, to enhance the quality of services provided to students with learning disabilities and other related academic problems.

In this project, computer applications were used to facilitate curriculum-based measurement (CBM). With CBM, the teacher selects the level of material on which the pupil should demonstrate proficiency of the year's end. Then, the teacher uses a standardized measurement system to assess student performance on the goal material twice weekly, and systematically evaluates the database to assess the adequacy of student progress and tha instructional program. Over time, the teacher uses the evaluation data to empirically formulate effective instructional programs.

These CBM procedures, designed and researched over the past decade, have been shown to be technically sound and to result in improved pedagogy and student achievement. Moreover, recent technological developments permit automatic data collection at computer terminals, so that teachers are freed from the time-consuming tasks of collecting, scoring, and graphing student data. Additionally, software automatically analyzes the database and provides quantitative and qualitative feedback statements to the teacher concerning student performance.

The session is divided into four major segments: measurement system, qualitative feedback, advice, and student feedback. Each segment, outlined below, includes description of procedures and review of the research base supporting these procedures.

Measurement System:

CBM procedures for monitoring pupil progress and for developing effective instructional programs will be explained. Specific CBM procedures will be outlined and concrete applications with LD and low achieving students will be presented.

Qualitative Feedback:

Alternative methods for displaying student performance data will be described. Effects on student achievement and teacher's instructional planning will be discussed. Computerized qualitative feedback, which shows the level of accuracy of student responses summarized across measurements, will be described using a case study in one academic area. Information will center on teacher's use of qualitative feedback for formulating instructional modifications.

Advice:

This segment will provide an overview of the computerized recommendation system designed to further facilitate teacher's instructional planning.

Student Feedback:

Recent research findings on the effects of computerized feedback for students will be addressed in this segment. The results of student goal setting and performance feedback systems will be presented.

BIOSKETCH ON MARCIA R. NUNNALLY

Marcia R. Nunnally, M.Ed., OTR/L is an occupational therapist in private practice in Spartanburg, South Carolina. She provides consultation services on assistive technology to school systems, hospitals, government agencies, and long-term care facilities. Mrs. Nunnally has been a speaker at numerous national and regional conferences on topics related to technology and individuals with disabilities.

TECHNOLOGY AND THE AGING: EXPLORING A NEW FRONTIER

There is no doubt that "the future is now" when we look at technological advances and their influence upon each of our lives. The role of technology in the areas of education and rehabilitation appears firmly established. Quality of life for individuals with disabilities is being greatly enhanced as seen in advancements in written and spoken communication, environmental control, and mobility.

One significant population may not yet be reaping all of the rewards of our new-found knowledge and skills in assistive technology: the aging. Why are we, as professionals and caregivers, focusing our attention primarily upon children and adults? What about the SENIOR adults? The intent of this presentation is to examine several models of service delivery for the aging and to suggest methods of introducing technology into programs serving this vast group.

According to Marvin Cetron and Owen Davies in AMERICAN RENAISSANCE, the number of Americans over age 65 will increase by more than 50 percent by the year 2000. The 85 and over age group is the fastest growing segment of the United States population; what this means for service providers and caregivers should be clear. There will be a growing demand to provide increased services for this population. Treatment philosophies and modalities must change to provide state-of-the-art therapy and rehabilitation to the older members of our society.

Technology and the aging appears to be a new frontier, beckoning anyone who is willing to journey into uncharted and unknown territory. There is a paucity of information in the professional literature. No guidebooks or recipes are available at present to suggest how to embark on such a venture. At least one facility is trying to adapt the currently accepted methods for applying technology in special education and rehabilitation to the long term care environment.

Spartanburg Convalescent Center is a 192-bed nursing home located in Spartanburg, South Carolina. In August 1989, an Apple IIGS computer system was purchased for use in the occupational therapy program. Several peripherals, including Power Pad, Touch Window, and Unicorn Expanded Keyboard were also purchased. Initially, public domain software was used in an effort to contain costs.

The occupational therapist had experience working with assistive technology with students. Often, nursing home patients were discharged from therapy due to reaching a plateau in treatment. The therapist felt some of these patients could benefit from continued therapy if the same devices were available that are now commonly accepted in special education and rehabilitation. Without any guidelines, the therapist began adapting her skills in special education technology and tried to apply these skills in her consulting at the nursing home.

The results of introducing technology as a therapeutic modality were immediate and positive. The computer has proven its value as a tool in working with patients on activities of daily living, perceptual motor skills, and in play and leisure time activities, to name a few. Speech therapy now incorporates low tech communication boards and high tech electronic aids into evaluation and treatment. Some patients rooms have also been equipped with devices to assist in environmental control.

No formal research studies have been conducted on the advantages of using a technology-oriented treatment program versus a traditional therapy program. However, response from patients and families has been very positive. Utilization of the computer as a tool has enabled many patients to remain in therapy for longer periods of time before reaching a plateau. Likewise, gains made in therapy appear more significant.

Increased independence and improved quality of life are the primary goals of the therapy programs at Spartanburg Convalescent Center. An additional benefit, important to any service provider, has been increased revenues generated from therapy services. In the first six months following the purchase of the computer, therapy revenues almost doubled.

Plans for a telecommunications program and electronic support groups for patients and families are being introduced at Spartanburg Convalescent Center at the time of this writing. The intent is to expand the use of the computer beyond patient treatment. No one knows what the future holds, but it is a sure bet technology will play a role!

REFERENCES

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BIOSKETCH ON ANTHONY J. LANGTON

Anthony J. Langton is the Project Director of the Center for Rehabilitation Technology Services, part of the South Carolina Vocational Rehabilitation Department. Previous work experience was with the University of Wisconsin-Stout dealing with technology and rehabilitation services.

DEVELOPING A DIRECTORY OF ASSISTIVE TECHNOLOGY SERVICE PROVIDERS

Introduction:

Determining where to go for assistive technology services is a common problem found throughout South Carolina and in most other states as well. Most individuals, including consumers and professionals working in the education, rehabilitation and health care fields, have difficulty in knowing where to find service providers who offer the specialized assistance needed. Many times this lack of knowing who to go to, and who to ask questions, presents a serious obstacle to making assistive technology services more available.

It has been recognized that access to information is an essential cornerstone to assistive technology service delivery. Directories of service providers had been compiled on the community, county and state level; however, none of these focused on technology or technology related services. It was very difficult to use existing sources to locate the specialized technology services needed.

The goal behind the development of the service provider directory project was to increase the opportunity for individuals with disabilities to obtain assistive technology services by developing a tool to help match the need for assistive technology with available service provider resources. The project's objectives were to:

1. Identify agencies, organizations and individuals who provide assistive technology services,

2. Gather information describing the services available, and

3. Compile some type of a "statewide directory" of these service providers.

Approaches and Considerations:

Determining how to locate and compile assistive technology information and then make it available to the variety of people who needed to know presented several options. Our primary concern for the directory was to present information in a format that was easy to use, understand, and update and also be capable of being replicated in other states. Preliminary efforts concentrated on developing a printed directory due to the limited availability of computers for software database access and the need to provide information to a widely divergent group of professionals, consumers and other service providers.

It was apparent that reliance on a print format restricted the capability for search, cross-referencing and interactive use of the data. The possibility of developing a service provider database on Hypercard software, similar to HyperAbledata, was investigated with the Trace Center, University of Wisconsin-Madison. This project was initiated utilizing the same provider information and a separate paper describing the Hypercard service provider database will be available.

Gathering Information:

The task of identifying and locating information on assistive technology service providers was initiated with a general survey of agencies and programs in South Carolina involved in serving individuals with disabilities. From this brief questionnaire, 473 potential "service providers" were identified and provided with a second "questionnaire" that was specifically targeted to their type of service activity. Copies of the surveys and forms are available from CRTS.

A telephone follow-up to the respondents from the second questionnaire was conducted to verify the information. This follow-up was necessary primarily to gather additional information needed for the Hypercard database project. The telephone contact did, however, produce additional information which could not have been gathered from a standard questionnaire. Information was then entered on standardized page layouts for the various categories of "providers" with a proof copy mailed to them for final review.

Format Considerations:

Organization of the "directory" began by categorizing "service providers" into agencies, organizations, specialized programs, consultants, vendors/equipment suppliers, volunteers and other, which included the more generic resources for obtaining repair and fabrication services. Complete information on contact information, mission/purpose, eligibility requirements, geographic area served, disabilities served, assistive technology services provided, types of assistive technology and additional information was provided. Limited cross reference capability was built into the "Additional Information" portion of each entry when appropriate. Appendices were also utilized to include additional addresses and important contact information.

Utilization:

Widespread distribution of the directory to consumers, programs and agencies and service providers was done to provide easy access to anyone interested in assistive technology services. Information in the directory is intended to be used to help "match-up" an individual's need for some type of assistive technology or related service with prospective service providers. Additional contact with the particular service providers will be necessary to determine if the services needed are appropriate.

The directory is the first attempt at the development of a statewide assistive technology service provider database. Identifying who to contact, determining what information to gather and report, and how to most effectively make this accessible to the differing, were primary issues dealt with. Monitoring utilization of the directory and feedback from users will be used to update subsequent directories and to estimate the impact that this may have on service delivery.

Acknowledgement:

Support for the service provider directory project was made through the National Institute on Disability and Rehabilitation Research (NIDRR) REC grant to the South Carolina Vocational Rehabilitation Department.

BIOSKETCH ON DR. STEVEN RAY

Dr. Steven Ray is an Augmentative Communication Consultant for Adaptive Communications Systems, Inc. Dr. Ray received his B.A. in Psychology from the University of Mississippi, his M.S. in Deaf Education and Ed.D. in Educational Psychology from the University of Tennessee. He is widely recognized for his publications in the area of "low-incidence children.

PSYCHOEDUCATIONAL ASSESSMENT FOR [illegible] AND WITH AUGMENTATIVE COMMUNICATION

Defining the Population:

There are a significant number of individuals for whom speech is either extremely difficult or impossible and who are extremely physically limited. For these individuals to communicate, they must be equipped with either communication boards or sophisticated electronic devices which permit access through switching, head pointing, eye gaze, joy stick control or keyboard emulation. Henceforth, these individuals will be referred to as speech-impaired/physically limited individuals (SI/PL).

Legal Aspects of Assessment:

The psychoeducational assessment of SI/PL requires diverse materials and a variety of skills. These materials and skills must be utilized within a legal and ethical milieu. Care must be taken to assure that these individuals are evaluated in a manner which minimizes test bias and still yields results which are usable by those responsible for education intervention.

The Education for All Handicapped Children Act of 1975 (Public Law 94-142) mandated that these children have access to certain rights:

a. Benefits of a free public education and;

b. Due process in assessment and placement procedures. Public Law 94-142 also states that testing must be nondiscriminatory. Materials and procedures utilized for the evaluation and placement of handicapped children must be selected and administered in a manner that is neither culturally nor racially discriminatory (Section 612). It is further specified that these materials and procedures must be administered in the child's native language or mode of communication.

Rules and regulations for the implementation of P.L. 94-142 further require that instrumentation must be selected and administered so as not to penalize children with impaired manual, sensory or speaking skills. In addition, it is stipulated that these materials be administered by trained personnel in a manner prescribed by the test developers.

The Problem:

Any low-incidence population will require a diverse group of professionals to provide an appropriate assessment. Perhaps no other population requires the diversity as that of the SI/PL population. Diversity of professional disciplines must also be matched with the diversity of skills within each profession. Each member of the team must understand augmentative communication and the ramifications of this mode of communication on assessment procedures.

Few assessment professionals have specific training in the assessment of children for augmentative communication. Likewise few assessment specialists are trained to assess children who are already using augmentative communication methods.

Appropriate psychoeducational assessment cannot occur without augmentative communication, while augmentative communication methods can not be determined without first conducting a psychoeducational assessment. Although there exists instrumentation which can be adapted for use with SI/PL children using augmentative communication, there is research which would support the adoption of such adaptations.

Because each component is dependent upon the other, a very careful progression of assessment questions must be posed over an extended time. This population, as no other will require continued assessment. This population will also be at greatest risk for misdiagnosis.

Possible Solutions:

Methods must be developed to assess levels of cognitive development and linguistic competence prior to the implementation of augmentative communication. Subsequent to providing augmentative communication, additional testing is necessary. As testing progresses, care must be taken to minimize test bias. The results must be interpreted relative to the child's handicapping condition, method of presentation, and mode of communication.

There exist scales for the assessment of handicapped children which are adaptable to the SI/PL population. One such scale is the Southern California Ordinal Scales of Development. Two features of this developmental scale make it especially appropriate for the SI/PL population. Most importantly, it imposes no standardized method of administration. A second feature is the inclusion of the concept of emerging skills within the scales.

Since these scales were developed for the assessment of low-incidence handicapped children, they are especially useful for the population of current focus. By excluding a small number of items and creative administration of the remaining items, the scales become useful for the estimation of cognitive and communication development.

Prior to the evaluation and implementation of augmentative communication these items can be administered and estimates of cognitive and communication levels can be established for children functioning within the Piagettian Sensorimotor and Pre-operational developmental levels. Subsequent to the implementation of augmentative communication move, precise assessment using modification of traditional standardized instruments can be undertaken. The appropriateness of these standardized methods will be dependent upon the methods of access imposed by the child's physical limitations. As the child moves from less direct methods of access, the more at variance the administration will be from the standardized presentation.

Because less direct methods of access require higher developmental levels, those children able to directly access devices can be evaluated earlier and with more precision. Children requiring less direct methods, such as one or two switch access, will have to be assessed first by developmental methods and only later by using revised administration methods of standardized instruments.

BIOSKETCH ON KURT BAUMGARDNER

Kurt Baumgardner has been employed by Shepherd Spinal Center as Horticultural Therapist since 1988. A graduate of Purdue University in Ornamental Horticulture, Kurt has extensive experience in the landscape design and maintenance industry. Professional involvement includes active participation in the American Horticultural Therapy Association, and membership in the board of directors of the Mid-South Chapter of that organization.

PEOPLE, PLANTS, AND THE THERAPEUTIC ENVIRONMENT

People and plants. Since the beginning of time these two creative forces have interacted with each other. Plants have created the oxygen rich atmosphere in which we live. Plants have provided people with a rich source of food and medicine. Plants enrich our lives with their beauty, both simple and complex. We also as humans have impacted this equation. Humankind has spread many species of plants throughout the earth. We have engineered plants that produce more food, have larger flowers, and resist many types of pests. This interrelationship exists for all people, those with disabilities, as well as those who interact with the disabled. Whether at school, home, or in our leisure activities, the people and plant experience is an essential one. This presentation specifically addresses this experience as it relates to the disabled community.

Nature stroll, gardening, horticulture, or landscaping, all refer to activities that involve plants and our leisure time. Thinking about these activities in new ways allows the disabled to fully participate. Raised beds, vertical gardens, and containers give ease and access to plants. Window boxes, hanging baskets, and even small potted plants are practical and attractive in areas with limited space. Specially adapted tools and techniques allow those with physical disabilities to get the job done. Materials needed are often very inexpensive and readily available. This is true even in small towns and rural areas. Transportation needs are also minimal. Once the container, window box, or raised bed is in place other needs may be ordered through the mail. Tools, seeds, and plants are all available through many retail catalogs.

Gardening is also a leisure activity to be shared. Teaching a child the joys of gardening produces many results. The same is true with an adult teaching an adult. New skills are learned that have application to one's daily life. Our gardens require our care to thrive, thus responsibility is fostered. We may have questions that require us to communicate with others who are more knowledgeable about a given plant or situation. In many locations one may share the product of their garden at flower shows, fairs, or festivals.

The rewards of horticulture are many. Everyone who works with plants experiences these rewards. Those who grow a flower for the first time, or pick their own fruit from a containerized fruit tree, or just enjoy watching a favorite houseplant on the window sill, all of these people are being rewarded for their efforts. Even the person whose disability might allow them to only participate visually can get in on the fun. A person can reap the reward of sensitivity to color, texture, design, and overall natural beauty. Education can allow even the severely disabled to enjoy and cultivate leisure through the plant world.

The people and plant experience is clear, in that the disabled community and all people may partake of the leisure benefits that plants offer. Not only do we derive satisfaction from our leisure involvement with plants, but we also do our part to ensure that our environment remains green and habitable for those who follow.

BIOSKETCH ON MARGY CONNERS

Margy Conners is the Coordinator for the Speech-Language Disorders Program in the Cobb County School District. She has 17 years of experience in working with communication disorders. She has many special interests within the field of speech and language including the area of augmentative and alternative communication.

BIOSKETCH ON GAIL WILKINS

Gail Wilkins is the Special Education Supervisor for Bartow County Schools. She has worked with handicapped persons for 16 years and has been responsible for the implementation of augmentative and alternative communication programs within the school and community during the last seven years.

BIOSKETCH ON JULIANNA WILLIAMS

Julianna Williams is the Consultant for Physical Handicaps for the Bibb County School District. She has worked in the field of speech and language for 32 years and has been particularly active in the field of augmentative and alternative communication for the past four years.

BEST BETS ON REVISING AND INTEGRATING SERVICES IN AUGMENTATIVE COMMUNICATION

Augmentative communication services to students within a school system are changing. In the past, there were only a few students who needed this type of "therapy" and it was generally provided in an isolated environment. In addition, the communication system available for the student was seldom used outside of "therapy" or was bulky to use or carry so was often left in the therapy room until it was time for the student's next session.

With the advancement of assistive technology and a changing philosophy which affords more students the opportunity to receive communication services, school systems are now challenged to revise their administration and staff's ideas and skills in augmentative communication and to lead them into providing integrated services.

Several administrators who have been involved in implementing this challenge will present their best bets on how these changes can be accomplished. Topics to be discussed will include:

1. General description of the school system (size, population, location, etc.).

2. Review of where county began (why, how) and their present level of services to students.

3. Obstacles to changing attitudes-both administrative and staff, and suggestions on how to overcome or avoid them.

4. Staff development: Who needs it and how do you get it?

5. Role of the parent.

6. Funding issues.

7. Planning for the future.

At the conclusion of each presentation, the audience will be invited to ask questions from the floor.

BIOSKETCH ON GARY E. ROSS

Gary E. Ross has a masters degree in Special Education with a specialization in computer technology. He has taught several years in public and private schools where he was instrumental in the integration of programs using computer based technology to meet individual needs of students with various disabilities. Mr. Ross came to the University of Georgia in 1989 to serve as project coordinator for the Special Education Technology Resource Center (SETRC) and is currently working on a doctorate degree.

THE TRAINING OF SPECIAL EDUCATION TECHNOLOGISTS

The Department of Special Education, College of Education, at The University of Georgia has created a new minor area of study, Special Education Technology (SET), within the graduate degree programs in Special Education. Designed to train special education technologists, the SET program is federally funded through the Preparation of Special Education Technologists, U.S.D.E. # H-029B-90318 grant. The Special Education Technology Resource Center (SETRC), part of the Department of Special Education, coordinates the SET program. Currently, the State of Georgia does not offer certification in Special Education Technology. Therefore, this new program component is being offered as a minor area of study which consists of two courses in Instructional Systems Technology, one course in Special Education Technology and practicum experiences with various member agencies of The PEACH alliance (Providing Education and Access in Computing for the Handicapped) and the Georgia Learning Resource System (GLRS). Through its affiliation with the PEACH alliance, SETRC maintains contact with organizations such as the Association for Retarded Citizens of Georgia, the Center For Rehabilitation Technology of the Georgia Institute of Technology, Easter Seals of Atlanta, the Atlanta Area School for The Deaf, the Shepherd Spinal Center, Apple Computer, Inc., IBM, United Cerebral Palsy and others. The GLRS is a statewide group of support centers for teachers and other professionals who work with individuals with disabilities.

SETRC has been in operation for one year as of July 1990. During this time a new interdisciplinary component to the masters degree program in Special Education has been developed. This program trains special education technologists and thereby increases the quantity and, improves the quality of special education teachers, administrators, and related services professionals who are trained to match appropriate technology to the needs of individuals with disabilities. The objective of the program is to prepare ten special education technologists per year. The goal was achieved at a level of 90%, with nine students completing at least part of the course work.

These technologists are prepared to use special education technology in their own situations. This may be in the classroom, therapy session, office, or other location. During this preparation they receive an extensive introduction to the application, production and curriculum infusion of programs using many forms of special education technology. Special education technology in this instance not only includes basic computer technology such as using drill and practice software to improve math skills among Learning Disabled students, but also includes the use of adaptive technology to provide computer access for individuals with various forms of disabilities, the use of augmentative alternative communication technology to provide a means of interaction with their environment for individuals with communication limitations, and the use of state of the art applications such as, interactive compact disk and laser video disk technology to provide an instruction. Through a series of lecture, demonstration, and "hands on" sessions, the students are introduced to the concepts, operating principles, and actual use of the various forms of technology. It is this multifaceted approach of the SET program that enables the students to develop a broader understanding of the application of special education technology, placing them on the cutting edge" of new developments in the field and giving them "hands on" experience in the application of technology with individuals with disabilities.

After completing the SET program, the technologists will return to or assume new positions in public schools, where they will work directly with individuals with disabilities. However, they will continue to work, on a consulting basis, with the GLRS centers in their areas to provide in-service training, that will help special educators and related service personnel become and remain proficient in the use of special education technology. These activities, along with practicum experiences, provide a key service component of the SET program. It is through this ongoing contact, that the technologists will work with, and provide leadership for practitioners working in the field. Not only does this aspect of the program provide valuable "hands on" experience for SET students it also; through the planned dissemination of information, knowledge, and skills, potentially impacts over 5,000 individuals with disabilities over the course of the project.

A portion of the SET grant funds are designated for the development, implementation, and evaluation of innovative instructional modules to be used to facilitate training in the appropriate use of technology among special education practitioners. These modules are used by the technologists during their training and practicum experiences and the same materials will be used, on an ongoing basis, as tools for in-service presentations. Additionally, the materials are designed to meet the needs of special educators in the rural areas of Georgia. These modules are being developed in HyperCard, other development languages, CD-ROM, laser videodisk, and combinations of modes. The modules are designed as self-study materials that will be disseminated to GLRS centers where they will be use by special educators to reinforce the knowledge gained through in-service presentations. One of the long term goals of SETRC is to develop a method of transporting the SET program to the rural areas of Georgia, thus allowing many additional professionals to participate.

Also, the development of methods and materials to enhance the use of technology with individuals with disabilities has become a significant part of this phase of the SET program. After refinement, these materials will be widely distributed to facilitate the use of technology in the special education setting.

All of the materials developed by SETRC reflect principles of instructional design and technological content considered to be "state of the art" as reflected in the literature, conference presentations, trade shows, and other sources. The SETRC program specialist will maintain a knowledge base of current technological developments by ongoing computer literature searches, conference/workshop attendance and contact with national electronic bulletin boards such as SpecialNet and AppleLink which maintains links with companies such as Prentke Romich, the National Rehabilitation Information Center, LINC*NET, LINC Resources Inc., and the Trace Center. This information will be disseminated to the technologists, GLRS centers, and others through the SETRC bulletin board which links SETRC, the GLRS centers and other resources together.

The above activities are designed to assist professionals in gaining and maintaining the competencies necessary to successfully use special education technology with individuals with disabilities. In addition, this project will allow SETRC to provide practitioners with information for continually updating their skills and knowledge base. The teacher training materials developed, evaluated and distributed by SETRC through the GLRS centers will have a broad impact on individuals with disabilities. SETRC will publicize the materials for distribution to other colleges, universities, school systems, and agencies. The broad impact of these materials can potentially reach all of the 50 states and the results of this project will be the increased and improved use of special education technology with individuals with disabilities. It is anticipated that this project will have the broadest possible impact on teacher training both within the state and nationally. It is further expected that this project will provide both a practicum model and an in-service model that can be replicated on a national level.

BIOSKETCH ON DEIDRA BUNN

Deidra Bunn is a Speech-Language Pathologist with ten years of experience. She is employed by Cobb County Schools and as part of her duties functions as the Augmentative and Alternative Communication Specialist for the county.

BIOSKETCH ON PATTI KING-DeBAUN

Patti King-DeBaun has been actively involved in the area of augmentative and alternative communication for the past six years. She is a Speech-Language Pathologist and is the former AAC Specialist for the Bartow County School System. Presently she is a Consultant in the field of augmentative and alternative communication instruction and intervention and will soon open a Lekotek Center in Gwinnett County.

BIOSKETCH ON NETIA GEORGE

Netia George is the Lead Speech-Language Pathologist for the Speech- Language Disorders Program in the Chatham County School System. She also serves as the Assistive Communication Specialist. She has been involved in this area for the past seven years.

THE AUGMENTATIVE AND ALTERNATIVE COMMUNICATION SPECIALIST IN THE PUBLIC SCHOOLS

Some school systems have created a specialty role for the speech-language pathologist; the Augmentative and Alternative Communication Specialist. These positions are needed for a variety of reasons. First, the technology is ever changing and it would be difficult and expensive for a school system to keep an entire staff up to date. In addition, the AAC Specialist often needs a reduced caseload to carry out the extra duties. Obviously this would not be reasonable for all staff members. Lastly, not all staff are interested in serving AAC students.

Systems have set their programs up in different ways. Some AAC Specialists evaluate and provide services to all AAC students. In other systems, the AAC Specialist does the evaluation and then trains the school therapist to work with the student.

Panel members will cover some of the following topics during the presentation:

1. General description of the school system (size,location, population, etc.).
2. Discussion of job duties and responsibilities.
3. Pros and cons of being the AAC Specialist.

LIVING

BIOSKETCH ON JUNE ISAACSON KAILES

June has been active as a disability rights advocate and program developer in the independent living movement since the late sixties. June consults in the areas of disability-related advocacy, public policy, independent living center management, training and fund raising. She is currently working with such local, state, national and international organizations as the National Council on Independent Living, National Council on Disability, United Cerebral Palsy...Government Affairs Department, California Foundation of Independent Living Centers, World Institute on Disability and Maguire Thomas Partners. During her eight years as Executive Director of the Westside Center for Independent Living (WCIL) in Los Angeles, June established WCIL as one of the largest and most respected independent living centers in the United States. June is a frequent speaker on independent living and other disability related issues and has authored numerous articles, book chapters, monographs and training manuals.

BIOSKETCH ON PAT PUCKETT

Pat Puckett is the founder and director of Creative Pathways, Inc., a consulting firm established to further the civic participation of people with disabilities. From 1973-1989 she developed and managed living arrangements-respite care, foster care, group residences, semi-independent living for people with developmental disabilities. Since 1989 Pat has concentrated on organizing for systems change so the individuals, families, and agencies are discovering new pathways to community life. Pat is active in the disabilities rights movement and in local politics. She is a member of the Georgia Women's Political Caucus, the Fund for Southern Communities, Medicalamity (a consumer organization working for health care reform) and a Board Member of the Georgia Forum, a network of people who bring progressive news to mainstream media.

GETTING BEYOND CURB CUTS

Assistive Technology Definitions:

THE PAST:

- Fitting the consumer to the available services versus designing and delivering individualized supports.
- Talking about people's deficits instead of their strengths.
- Denial of the right to choose.
- Having decisions made by professionals.
- Not being invited to a planning meeting for which you serve as a "topic". Instead, the representative families or advocates attend to represent their "best interests."

THE PREFERRED FUTURE:

- Consumers become active participants in the policy and decision making process at the local, state and national levels.

The Preferred Future Continued:

- The role of assistive technology as a liberating force for people with disabilities is not new, what is new is the speed at which it is now being developed.
- Closing of the gap between what is available and what is obtainable.
- A consumer responsive system, similar to the new approach to service in competitive businesses, customer service conscious management. A system which really understands customer satisfaction, demands service and quality or does not survive.
- Translating this new customer service culture into human service practice. If profit making businesses can serve as models, human service agencies can also change their ways from a "we know it" approach to a "let's find out approach."
- Conversion to responsive system that understands that:

  1. Time is precious and life is short.
  2. Disability is a natural part of the human condition, not a punishment for evil people.
  3. Technology is provided for accommodations, like cars, buses, and chairs.

- Consumers play a primary role in decision making.

PROFESSIONAL/CONSUMER RELATIONSHIPS:

- The Acid Test: Tokenism or meaningful, significant and responsible consumer involvement.
- Importance of partnership versus the old, but common we/they gatekeeper approach.
- All I (blank) P's always include the person who they are about.

STRATEGIES AND TACTICS:

Survival skills: Understanding and channeling the rage about what is available versus what is obtainable.

- Importance of finding and utilizing "technopeers."
- Squeaky wheel wisdom, assertiveness and documenting.
- Partnership, agreements, mutual accountability.

CAUTIONS:

- "Technocrats".
- "Technolusters".
- Keeping it simple, practical and usable.
- Handout: Assistive device evaluation criteria.
  Consumer Criteria for Evaluating Assistive Devices: Effectiveness, affordability, operability, dependability, portability, durability, compatibility, flexibility, securability, learnability, personal acceptability, physical comfort, supplier repairability, physical security, ease of maintenance, consumer repairability and ease of assembly.

BIOSKETCH ON JUNE ISAACSON KAILES

June has been active as a disability rights advocate and program developer in the independent living movement since the late sixties. June consults in the areas of disability-related advocacy, public policy, independent living center management, training and fund raising. She is currently working with such local, state, national and international organizations as the National Council on Independent Living, National Council on Disability, United Cerebral Palsy...Government Affairs Department, California Foundation of Independent Living Centers, World Institute on Disability and Maguire Thomas Partners. During her eight years as Executive Director of the Westside Center for Independent Living (WCIL) in Los Angeles, June established WCIL as one of the largest and most respected independent living centers in the United States. June is a frequent speaker on independent living and other disability related issues and has authored numerous articles, book chapters, monographs and training manuals.

BIOSKETCH ON EDWARD V. ROBERTS

Ed is an internationally-recognized leader of the Independent Living/Civil Rights movement of people with disabilities. Ed co-founded and is president of the World Institute on Disability, an institution that is dedicated to the elimination of "handicappism," through equity of opportunity and full participation within our society. Ed was the first person with a severe disability to a head a state department in California and is a coalition-builder around political action among all disability groups. He has an extraordinary ability to draw people, disabled and non-disabled, into positive and creative action and has literally touched and improved the lives of millions of people.

INFORMATION AND NETWORKING EQUALS POWER AND OPPORTUNITY

The first step in developing a position or starting a project is to access information and people. Not all information is clear and concise. It's not always who you know or what you know but a little of both! ***PICK A SUBJECT, ANY SUBJECT***...your school, job, favorite agency, family or hobby. No matter what the subject, chances are that Ed or June know something that may be useful.

Identifying persistent obstacles, unfair treatment or lack of support are traditional advocacy issues. A long tradition of citizen involvement has produced a wide range of techniques to achieve advocacy goals. Instead of spending a lot of time trying to locate more information about these techniques, attend this networking session. ***ASK, SHARE OR JUST LISTEN.***

BIOSKETCH ON JENNY LANGLEY

Jenny Langley is a C-1, ventilator dependent quadriplegic. Jenny is currently participating in a pilot program that Shepherd Spinal Center is sponsoring. The purpose of this project is to show that it is cheaper to help people like herself to live at home rather than be institutionalized. Jenny uses a sip and puff power chair. Ms. Langley enjoys shopping, and movie going; things that would be impossible for her to do if she resided in an institution. Jenny lives with her sister and her two nieces. She enjoys watching them grow; they could never spend the night with her if Jenny lived in an institution. Jenny feels that the State of Georgia will have to pay for her to live regardless; does not it make sense to pay for her to live in her home setting which is five times less expensive than an institution?

BIOSKETCH ON GORDON RICHMOND

Gordon Richmond was an honor student at University of Alabama in Huntsville where he graduated with a degree in Business Administration. Presently, Gordon works as an administrative assistant for the University of Alabama in Birmingham in the Department of Medicine where, among other responsibilities, he analyzes data for various departments, gathers and analyzes data for budget preparations and recommends software programs and implements the software into the Division's hardware system. Gordon has served on the State Board of Directors for the Alabama Developmental Disabilities Advocacy Program and is currently serving as member of the S.M.A.R.T. Exchange Advisory Council. He is a member of the steering committee of U.C.P. of Birmingham's mentoring program, "Pathways Toward Independence" and a charter member of the Board of Directors of "Hear Our Voices", an organization for users of Augmentative and Alternative Communication.

BIOSKETCH ON KATE GAINER

Kate Gainer is a wife and mother. She earned a B.A. in marketing at Georgia State University. Kate has been a community activist since 1978. She has been a member of Governor's Council on Developmental Disabilities since 1983, Vice President of Disability Activists Rally for Equality (DARE), and member of the Board of Directors for Let's Get Together, parent organization for ADAPT, Life Worthy of Life, and Concrete Change. Ms. Gainer served as accessibility coordinator for the 1988 Democratic Convention and worked as recreation coordinator for the Atlanta Center for Independent Living.

BIOSKETCH ON TAMI HASLAM

Tami Haslam is a 32 year old college graduate with a B.S. degree in psychology. She lives in Macon, Georgia in her own apartment. Tami enjoys a variety of things, such as movies, music and dancing. Ms. Haslam likes helping people and wants to make a difference in the world.

BIOSKETCH ON CARL ANTHONY CUNNINGHAM

Carl Cunningham, a native Atlanta, was born in March of 1955. He had experienced substantial visual impairment by the age of 17 and was totally blind by the age of 26. Carl received a B.S. degree from Georgia State University in 1981 with a major in Urban Life placing emphasis on Criminal Justice. He graduated form the UGA School of Law in May of 1984 and has been a practicing attorney since June 1984. Presently, he is engaged in a solo practice located in downtown Decatur, Georgia. During the course of his practice, Carl has become quite proficient in using adapted equipment such as talking computers to do day-to-day activities.

BIOSKETCH ON LEE ANN PENDERGRASS

Lee Ann Pendergrass, hearing impaired herself, holds a Masters Degree in Deaf Education. During a varied teaching career, Lee Ann designed and implemented a program to mainstream hearing-impaired students with hearing impairments at junior high and secondary levels. Along with developing and teaching a sign language curriculum, Ms. Pendergrass also provided peer counseling and parent education in the educational process. Lee Ann served as Director for the Center for Independent Living in Winter Park, Florida. She is currently the Project Director for a Peer Mentor Project in conjunction with UCP. As such, Ms. Pendergrass will supervise and coordinate Demonstration Sites for Technology Access.

BIOSKETCH ON JOY UPCHURCH

Joy Upchurch, support staff to the Governor's Council on Developmental Disabilities, will be on hand to record the events of the networking session between June Kailes and Ed Roberts and for the open forum, "Participants, not Spectators." Her "wallpaper" will help everyone to internalize a lot of useful information and allow people to catch up if they were unable to be present for the entire presentations.

OPEN FORUM: INDEPENDENT LIVING

When we discuss issues confronting individuals with disabilities, we are talking about a future that will become our own or that of someone close to us.

Independent Living (IL): A desire, a program. Some would say a movement whose goals are empowerment, self-determination and dignity for a group of disenfranchised people. Most would agree that IL programs sprung up in frustration with those organizations that controlled our lives. We recognized that what we had to do was to be politically active. We wanted to achieve a new and positive valuation of ourselves.

At the national level, revolutionary reform in disability policy occurred in the late 1960's and early 1970's. Traditional programs and polices and assumptions regarding disabled people were attacked through courts and legislatures. Advocates brought due process and equal protection challenges to the dehumanizing conditions in segregated institutions and sheltered schools. During March and April of 1977, the disability community conducted marches and sit-ins nationwide, including a 28 day occupation of the HEW offices in San Francisco. These actions of civil disobedience were especially significant, because the participants were disabled people from local communities, including coalitions of people with different types of disabilities. Further, because the actions were successful, it proved to us the power of the individual and group self-advocacy. In short, people with disabilities began to be seen as a class of disenfranchised people denied basic civil liberties and social access. On July 28th, 1990, the Americans with Disabilities Act (ADA) was signed into law.

Each of us has our own personal story. Where were we in 1977? What about the July of last year? What has happened in our lives since ADA became the law of the land? What kinds of personal needs still go unmet? What must be done in the future to make the promise of independent living a reality for all citizens?

As each personal story of the past differs, so must each personal story of the future. There is a place for self-advocacy as individuals as well as, for groups and also for coalitions. Self-advocacy means not allowing one's self to be a helpless victim, patient or client with no control over your own destiny. It means not being a passive recipient of charity and services. It means shaping your own future.

BIOSKETCH ON E. PATRICIA DRISCOLL

E. Patricia Driscoll, CTRS/L has over 20 years experience in cultural arts programs and 15 years experience in Therapeutic Recreation. At present, she is the Cultural Arts Specialist at Shepherd Spinal Center where she has developed an extensive program of expressive arts designed to enhance the rehabilitation of those with traumatic spinal cord injury. Ms. Driscoll has received a Bachelors Degree in Therapeutic Recreation from Georgia State University where she was awarded a certificate in Gerontology, Community Leadership.

EXPRESSIVE ACTIVITIES TO FACILITATE POSITIVE ADJUSTMENT IN REHABILITATIVE SETTINGS

Anthropologists, musicologists, and historians have documented the use of music, art, and dance from the time of primitive man. Our present day art therapies are the historical extension of primitive man's use of the arts as healing tools. Today it is a shared belief among expressive art therapies that the arts hold an inherent power to heal.

Why and how do art therapies provide healing tools? There is within the arts an inherent power to evoke emotions and move the human being to express feelings providing catharsis and healing. For example, who has not suddenly been moved to tears on hearing a piece of music for no obvious reason?

It is the power of the arts to cut through and move under the immediate or daily distraction that assists the participant in clarifying or expressing painful, unmanageable feelings.

How then with its inherent power is a working path in the process of healing established through the expressive arts? Each expressive art therapy, though different in mode offers:

a. Emotional Release
b. Connection with Self and Others
c. Integration of Inner and Outer Realities
d. Accomplishments
e. Development of Confidence and Self-esteem
f. A Rediscovery of the Joy in Life

The Drama Project at Shepherd Spinal Center is an excellent illustration of the working process in an expressive therapy. The participants in this project, patients and former patients, met weekly to develop a play and performance. Through theater games, general verbal discussion and sharing, there emerged the painful feeling issues surrounding traumatic spinal cord injury. From their shared issues came the material the group chose to put into a play and performance. With fantasy and humor the written play and performance were completed.

The healing possibilities are evident. Theater games encouraged verbalization and sharing of feelings. A written script and play production provided a sense of accomplishment. The development of self-esteem and confidence is more illusive and difficult to identify. However, in performance, there is a natural circumstance for successful confidence-building. In performance, whether role playing or performing a scripted play, the focus of attention is on the actor. The audience is passive and expectant. Only the actor or company members know what will come next. The actor is in control. He has the power. For the disabled, generally not seen as initiators, but as submissive and incapable, the position of power generates self-confidence and self-esteem.

This description of the Shepherd Spinal Project briefly touches on the healing process possible through expressive art therapies. While each therapy uses a different discipline, the desired outcome is the same. That is, the opportunity for individuals to live their lives more fully and successfully.

The 1990's are predicted to be the Art Bloom Decade. Through the excellent tool of the arts, those working with the disabled will have an unprecedented opportunity to offer healing and wellness.

BIOSKETCH ON PATRICK SCHARF

Since 1985, Patrick Scharf has grown to be a leader in the field of accessibility and client evaluation. His knowledge and experience allow him to write on the subject of accessibility, as well as, consult and present training workshops throughout the United States. His team approach has earned the respects of Occupational and Physical Therapists, Rehab Counselors, Engineers, and other rehab professionals. Patrick is an accessibility expert with Independence Builders. His prime function is assessment and design, as well as educating professionals and the public. For more information, contact Independence Builders, Inc. at 1718 Rugby Avenue, Charlottesville, Virginia 22901, (804) 977-5516 or (800) 562-0669.

BIOSKETCH ON EDWIN IRWIN

Edwin Irwin is a rehabilitation engineer with eight years experience in analyzing the capabilities of individuals with disabilities and designing adaptive equipment to help accommodate their functional needs. He helped establish a nationally recognized program in Louisiana for evaluating driving capability, and later became the Lead Rehab Engineer for the Commonwealth of Virginia, as well as, the Director for the Rehab Engineering Department at Woodrow Wilson Rehabilitation Center in Fishersville, Virginia. Mr. Irwin has since joined Independence Builders, Inc. as Vice President in charge of rehabilitation engineering, and shares his expertise in adaptive technology through lectures, seminars, and workshops across the country.

ACCESSIBILITY IS MORE THAN A GRAB BAR

Everyone has special needs; some more disabling than others. For those needs that require modifications to the home, there must be an understanding of the individual's needs with relation to the environment and the task to be performed. Accessibility is by assessment and design, not by standards and chance.

To assess a bathroom for modifications, first the user must be assessed for strengths and weaknesses applicable to each task. Each task should be divided into stations; for example, taking a shower, washing at the sink, using the commode, etc. Once each station is addressed individually, they can be modified together as a unit to assure smooth transitions from one station to another.

Beginning with the shower, the first concern will depend on the ability of the user to enter the shower area. It must be determined if the user will step in, slide in, roll in, or be lifted in. It should also be clear if the user will be assisted or not. Individual considerations should be given to the user's arm, hand and leg strength, balance, visual perception and muscle control. These considerations are important for both accessibility and safety.

Starting with some basic changes like, grab bars, bath benches, hand held showers, and faucets, the shower is made more accessible and safe. Grab bars should be located on an individual basis, however, some common locations are: a vertical bar at the point of entry, a horizontal bar on the back wall and above the faucet's typical location. The height will vary depending on the height of the user and whether the user is sitting or standing. The best way to measure for the location is to perform the task and mark where the hands reach for balance or strength. This procedure may require additional assistance. The bars used for strength should be long enough to accommodate movement in the desired direction. It is important to note that a grab bar improperly located can be more dangerous than none at all.

The bath bench that extends outside the tub area is perhaps the most under used safety device for the shower. With it, the user can sit down before stepping into the tub, or the bench can make a slide transfer much easier. Once seated, the user can safely lift the legs over the tub side and avoid a dangerous fall. For better personal hygiene, the open seat design would be recommended. Many tub lifts offer a variety of seats with varying purposes. These lifts offer safety and convenience, but can reduce the quality of hygiene.

For the roll-in shower, a wall mounted seat would offer more stability; however, if an attendant is helping, the bench will allow more freedom to get behind the user. Another alternative is the roll-in shower chair which offers more mobility from one station to another.

For multi-use showers, a hand-held shower with a glide rail system would be ideal. The glide rail offers different shower heights with little adjustment. It can also make the shower ambidextrous by mounting the rail on either side of the shower. With a snap coupling system, the shower heads can be switched with accessories like a bidet attachment. If an attendant is helping, a longer hose can be used for easier access to both sides of the user.

Leaning to reach the faucet to avoid a scald can be avoided with some simple changes. Placing the faucet on the back wall where the user's hand lands will increase safety and efficiency. The faucet recommended is the single lever type. A scald-guard feature is also recommended. If the single lever type is not used, be sure to use blade type handles for the two or three handle faucet. Some faucets are available with a temperature setting feature. Before these are installed, be sure that the user can manipulate the handle(s). Another tip for shower is to use a liquid soap dispenser for the soap and shampoo. This can prevent a bad fall, and be more accessible for those with limited hand use. Always have a non-slip material on the tub or shower floor.

The sink is very basic. The height will vary depending on the user's requirements; however, thirty inches from the floor is a common figure. The faucet recommended is the single lever type with the ball design, instead of the cartridge type. The drain should be back enough to avoid the legs, and the drain pipes should be insulated to soften an occasional bump and to avoid a possible burn. The ideal sink layout has a countertop with drawers underneath and at least thirty two inches of width between the cabinets. There should be enough outlets conveniently located to plug in whatever devices are necessary. These outlets should be the Ground Fault type in case of an electrical failure.

The mirror should be at a height that best suits the user. Be sure that the location of the sink on the countertop will allow the user to bow the face for washing, and the faucet is located for easiest use. It may also be helpful to use a liquid soap dispenser at the sink.

Using the commode can come in several forms. Some may require grab bars and a raised seat, while others may not sit on it at all. Just because the standards call for a higher seat does not mean that every individual is comfortable using one. Safety and comfort are important when attiring a commode. If the user is obese, be sure that the equipment used is sturdy enough, as well as comfortable. Many safety frames and grab bars are available, and to determine which to use is like measuring for grab bars in the shower; perform the task and mark where the needs are. Start with a basic safety frame, and add bars wherever they may be necessary. For applications where no walls exist, or more support is needed, a floor to ceiling pole is available for use anywhere in the room.

If the user cannot enter the room, widen the doorway. If this cannot be done, use a roller type shower chair, and set up a transfer station to get from the hall into the bathroom.

Many unusual situations come up each day. With a little ingenuity and a lot of understanding, the solution is just around the corner.

BIOSKETCH ON TAMI HASLAM

Tami Haslam is a 32 year old college graduate with a B.S. degree in psychology. She lives in Macon, Georgia in her own apartment. Tami enjoys a variety of things, such as movies music and dancing. Ms. Haslam likes helping people and wants to make a difference in the world.

STRIVING TO SUCCEED

At this point, I have been able to gain and education and to become independent. Now I am ready to find a good job and begin a career. Unfortunately, that is easier said than done. After graduation, I had a temporary job as Volunteer Coordinator at Mercer University. Even though the job was temporary, I took it for the experience. After that job ended, I began looking for a permanent job. While looking, I have done volunteer work to gain more experience. There were many jobs that I applied for that I could do, but it seemed they always had some reason not to hire me. Some of the barriers were, I had not enough experience, not physically fast enough, or my speech was not clear enough, which I think is a cop-out. A year after my job at Mercer ended, I got a part-time job, with the help of a friend, at a mental retardation center. I learned a lot and gained more experience at that job. Because it was part-time, I did not receive any major benefits. For instance, I did not have any medical insurance. That job ended almost three years ago. Since then, I have been looking for a permanent full-time job, and its been a real struggle, and still is. While looking for a job I have try to keep busy by volunteer and community service.

In conclusion, I do have my education and I am living independently, but I am still striving to establish a career. Sometimes I feel like giving up, but I know I really cannot do that. People should know I would not apply for a job I could not do. I think one main reason I am still not employed is that people not willing to hire the handicapped. We need to change society's perceptions on hiring the disabled. Employers need to focus on a persons abilities not their disabilities. The only way to do this is to get disabled person's into the work force. Certain provisions and adaptations should be made to make it possible for hiring the handicapped and disabled persons. This is where modern technology can come into play. We need to stop talking about it and start taking action.

BIOSKETCH ON ELWOOD H. SPACKMAN

Elwood H. Spackman, Director of Pastoral Services at the Emory Clinic; Director of Administration of Emory University Affiliated Hospitals Department of Pastoral Services; Ordained Elder, United Methodist Church; Fellow, College of Chaplains, APHA; Advocate for residential alternatives for persons with handicapping conditions; father of hearing impaired daughter.

BEYOND THE TECHNOLOGY

Julie is a 19 year old freshman at a small liberal arts college in the hills of Tennessee. Profoundly deaf since birth, she has succeeded in becoming comfortable and interactive in a hearing world due to modern technology. Among the usual trappings carried to college by freshman of today were the unusual technological necessities, her ever present powerful, but hidden hearing aids, a TTY, and vibrating alarm. Her sparse dorm room had been equipped with a strobe for announcing visitors and a special fire alarm. Seemingly, all was in place for Julie's continued success. Three weeks prior to the end of the semester Julie withdrew. She had been increasingly depressed and repeatedly threatened suicide. Why?

Shirley is a 24 year old masters of counseling student enrolled in a clinical quarter in a major teaching hospital. She has cerebral palsy and quickly discovers she is not able to negotiate the labyrinth of halls, electronic doors, and elevators. The use of an electric chair would enable her to participate fully. She refuses and opts for an altered educational experience. Why?

Joe drives up to the center in his new van. Deftly maneuvering into his motorized wheel chair he simultaneously opens the side doors and lowers the pneumatic lift. Quickly he descends and negotiates the few yards into the building to attend his weekly group. In group he expresses his rage at his condition and his frustration over not finding work. Why?

These limited examples point to the larger questions which exist in spite of the marvelous advances in technological advances for persons with handicapping conditions. These questions involve feelings around meaning, purpose, and self-hood which are not addressed by technology despite its' sophistication. They are questions which arise out of fundamental human needs that co-exist in all persons. For instance: What does it mean for a human being, created for interaction with others, to primarily interact with or through a machine? What does it mean for one's hopes and dreams to be radically redefined and even the new definitions limited by state of the art technology? What does it mean to continually be in the presence of technological barriers which are simultaneously freeing and limiting?

Abraham Maslov suggest one way of thinking and responding to these questions. He suggests that human needs, moving us towards self-actualization. They include physiological needs, safety needs, needs for belongingness, esteem needs, and ultimately the need for self-actualization and for cognitive understanding.

Technology primarily addresses physiological and safety needs and often enables one to engage in the search for belongingness, self-esteem, self-actualization and cognitive understanding. Technology faces its limits as human beings feel the needs for these higher level needs. It is at the point of meeting these needs that persons with handicapping conditions discover their commonality with all human beings regardless of physical or mental condition. It is at this point that we who have handicapping conditions, live with persons with handicapping conditions or profess to be a helping resource to persons with handicapping conditions are most challenged.

Again we are faced with difficult questions. How does one experience a sense of belonging when one cannot see, hear, understand or be physically present? How does one obtain self-esteem when constantly reminded about differences? How does one obtain self-actualization when the concept of self has been radically altered or differs from the norm? What is cognitive understanding mean for one whose brain cells differ or whose life experience is limited due to sensory deprivation?

The difficult questions raised in spite of technology are deeply spiritual questions. They involve each persons relationship with his or her God, self, and others. They are questions held in common with all humanity but often lost in the quest for the meeting of physical and safety needs. It is vital that these human questions be addressed along with the technological function. If we fail to do so we may gain function through robotics and find that the person is lost. What would it mean to enable a person to travel but that person have no desire to go. What would it mean to facilitate communication only to discover he/she has nothing to say?

We stand on the edge of an age of miracles where the lame may walk, the blind see, and deaf hear. We stand there in danger of falling together into an abyss of meaninglessness, unless we gave as much attention to the meaning questions as we to the technological ones.

We must humanize our technology before we win the battle and lose the war.

PLAYING

BIO-SKETCH ON GERRY MINGES

Gerry Minges, M.Ed., CCC-SLP, is a Clinical Instructor in the Department of Speech Pathology and Audiology at the University of South Carolina. She teaches an introductory course in Augmentative Communication and supervises graduate clinicians in the program at USC. In addition to AAC, her special interests include the speech-language pathologist as consultant and computer use in speech-language pathology.

BIOSKETCH ON LILY NALTY

Lily Nalty, MA, CCC-SLP, is a Communication Specialist with the Department of Mental Retardation Regional Office in Columbia, South Carolina. Her main interests include augmentative communication and dysphagia with individuals with mental retardation.

BIOSKETCH ON PATTY QUATTLEBAUM

Patty Quattlebaum, M.S.P., CCC-SLP, is an Instructor in the USC Department of Speech Pathology and Audiology. She assesses the communication skills of children birth to 21 years of age at the USC Developmental Pediatric Clinic. Since many of the children/young adults have severe communication problems in addition to other handicaps, the use of appropriate AAC techniques is essential.

NURTURING CONVERSATION INTERACTION WITH THE UNICORN BOARD

The Unicorn Board has been useful for programming choice-making and messages to provide verbal output for the user. However, responses programmed into the board frequently relegate the communicator to passive responding, rather than active participation when the message consists of single items the individual selects in response to questions.

An alternative to singular responding is the dialogue approach which focuses on interaction. Using the Unicorn Board, an interactive dialogue is set up, allowing each communicator to participate equally in conversation.

The process begins by identifying activities that the user enjoys and analyzing the messages that need to be communicated in order for the activity to be completed. Most important in this phase is the need to make messages appropriate for the individual. Colloquial language and age-appropriateness should be emphasized.

Also important at this point is the need to make responses as generic as possible, so that they may be used again in another dialogue. The point is to build the use of messages that can have meaning in many situations. In selecting messages, the user should have the chance to make the choices whenever possible.

Programming messages is an important next step with the need to make the message easily understood, which may require some "creative" spelling in programming the Unicorn Board. At this time, the overlay design should be considered. Use of color coding to designate the speaker is important at this time in order to clarify turn taking for each communicator.

Keeping in mind that the goal is to enhance interactive communication, each dialogue that is developed should be analyzed using the following questions:

1. Is the language used language that is natural, keeping in mind that we do not speak in most cases the way we write.

2. Would a child this age say this in this situation?

3. Can many of these phrases be used in other situations? The goal is to build a core vocabulary. What is required is frequent repetition in many situations.

Using the principles presented as a guide, the participants in this workshop will have the opportunity to review overlays and scripts on the Unicorn Board to critique the application of principles to board development. Videotapes of students interacting using dialogues will further illustrate the functional use of dialogue using the Unicorn Board.

BIOSKETCH ON JIM PIROLI

Jim Piroli, MA CCC-SP is currently the Senior Speech Pathologist at Egleston Children's Hospital at Emory, where he has assisted in the development of an extensive augmentative communication program. He has had 14 years experience with the pediatric population, eight of which were in the educational setting.

BIOSKETCH ON GLENDA EVANS

Glenda Evans, MA CCC-SP, has had six years of experience in the management of children requiring non-oral communication. She currently provides in and out-patient services to a variety of cognitive/communicative disorders at Egleston Children's Hospital at Emory.

SWITCH TOYS TO TOUCH TALKER: BRIDGING THE GAP WITH COMPUTERS

Once the decision has been made to pursue alternative means of communication in the severely impaired child, the parents, clinicians and educators are often faced with the seemingly insurmountable task of selecting the appropriate mode of encoding. Occasionally this will involve one of the commonly used manual techniques such as S.E.E. or Amerind. More often than not, however, a severely limiting motor impairment will necessitate the use of communication devices that can be accessed by switch, keyboard, eyegage, etc.

Of primary concern to the significant people in the child's communicative environment is the ease with which the child can encode his message as well as the ease with which the recipients of the message can decode it. Further, when the initial decision to use augmentative communication is made, the child's cognitive capacity to utilize these devices may be limited to the simple cause/effect process of switch activation of mechanical toys, a far cry from the sophisticated devices that we hope the child will ultimately use.

Our task, then, is to bring the child from the switch toy through progressively more complex technology and linguistic concepts to the devices that ultimately will allow the child to be an interactive productive member of his language/learning community. With the advent of the microcomputers and adaptive peripherals, our task has been simplified to a logical progression toward our goal.

The participants in this workshop will be provided with a decision making matrix that will assist in identifying children who are candidates for augmentative communication. Factors such as level of entry into the augmentative continuum, initial vocabulary selection, and progressive development toward the ultimate communication goal will be discussed. Computers with various adaptations will be demonstrated and software designed to assist in development of various cognitive/communicative concepts will be reviewed. Particular emphasis will be placed on use of the microcomputers with Adaptive Firmware Card, Echo Speech Synthesizers and Unicorn Expanded Keyboard to bridge the gap between switch toys and devices such as the "Touch Talker". Adaptation of commercially prepared programs will be demonstrated as will clinician designed programs for particular applications. Finally, participants will have the opportunity for "hands-on" experience with the programs demonstrated. A trained Clinician will be available to assist in computer use and answer specific questions.

BIOSKETCH ON MIKE HUFSTETLER

Mike Hufstetler has a Bachelor of Science degree from Georgia Southern College in Outdoor Recreation, with two years graduate work in outdoor recreation and resources development. Work experience includes: Georgia's Department of Natural Resources, Parks and Historic sites Division as Park Ranger and Superintendent on various parks throughout Georgia. Director of a wilderness camp in New Mexico. Director of several Department of Interior Youth Conservation Camps and Young Adult Conservation Camp programs. Owned and managed a private recreation park and a private guide service for whitewater canoeing and wilderness camping. Presently employed with Shepherd Spinal Center as the Outdoor Specialist.

ADVENTURE PROGRAMMING FOR PEOPLE WITH PHYSICAL DISABILITIES

Advances in medical care and rehabilitation have created a large number of physically disabled people who want to be active and participate in outdoor recreation activities of all varieties.

Many physically disabled people now have the fiscal resources to participate in moderate and high cost activities and are seeking avenues to pursue exciting outdoor recreational activities. The American Disabilities Act will mandate that all those private businesses or governmental agencies presently providing outdoor programming for the able bodied will now have to make provisions to include the disabled in their programming.

This session will address what is outdoor recreation and what is adventure programming for the physically disabled. The differences will be explained and the amount of participation in each category will be discussed. The degrees of adventure activities will also be defined. Low risk, moderate risk, and high risk activities all have their own advantages and disadvantages when it comes to planning and conducting the activity.

Planning outdoor recreation activities for the physically disabled will be discussed on a step by step basis. Planning considerations discussed will include knowledge of the disability, skills necessary for the activity, logistics, adaptations, marketing, adaptations management, safety concerns and leadership. A point by point discussion of each planning consideration will make the participants aware of the planning process they need to follow to incorporate the physically disabled in outdoor activities.

Liability is a concern for all providers of adventure programming. A discussion of liability, safety concerns and risk management will help the professional provider feel more comfortable in accepting the perceived risk of involving the physically disabled in their programming.

At the end of this session the recreation provider will know the variety of outdoor activities that the physically disabled population can participate in, and how they can go about planning activities and involving the disabled in adventure programming in a safe manner with no liability risk to their agency or no physical risk to their disabled participants.

I. **Definition of Adventure**

   A. Low Risk Activities
   B. High Risk Activities
   C. Components of Adventure

      1. Challenge
      2. Excitement
      3. Risk

   D. Role of Adventure in Therapeutic Recreation

      1. Diversionary
      2. Therapeutic Intervention
      3. Instructional, Skill Teaching
      4. Confidence Building

   E. Benefits of Adventure Programming

      1. Promotes Desire to Learn
      2. Builds Confidence
      3. Teaches Skills

II. **Variety of Adventure Programming**

   A. Low Risk Activities
   B. High Risk Activities

III. **Providers of Adventure Programming**

   A. Private Organizations
   B. Hospitals/Rehabilitation Centers
   C. Community Recreation Programs

IV. **Starting an Adventure Program**

   A. Planning

      1. Goals of Program
      2. Policies and Procedures

   B. Staffing
   C. Skills
   D. Equipment
   E. Adaptations

V. Safety Issues

A. Appropriate staff

1. Skills Needed
2. Appropriate Number
3. Leadership Skills

B. Safety planning

1. Emergency Sheet
2. Risk Management
3. Emergency Procedures

VI. Liability

A. Insurance
B. Risk Management

BIOSKETCH ON BETH ANN ROSENBERG

Beth Ann Rosenberg is the Coordinator for the Occupational Therapy Department's outpatient subunit. Together they have been instrumental in co-coordinating a Fitness for Everyone program for the Atlanta community.

BIOSKETCH ON JANALEE REINEKE LYTH

Janalee Reineke Lyth is the Director of the Occupational Therapy Department at Emory University Hospital' s Center for Rehabilitation Medicine. Together they have been instrumental in co-coordinating a Fitness for Everyone program for the Atlanta community.

FITNESS IS FOR EVERYONE: THE THERAPIST'S ROLE

A vital role of therapists is enabling all clients, including the elderly and physically challenged, to be fully integrated with community recreation therapy programs. Studies have shown low physical fitness levels in people with disabilities affects their ability to maximize mobility, socialization, recreation and even employment opportunities. Compared to their able-bodied peers, disabled people are generally less active, have less cardiovascular endurance and have a higher percentage of fat. Opportunities to enhance rehabilitation by mainstreaming physically challenged clients in with traditional physical fitness programs is challenged by the current lack of knowledge about how to modify existing programs for those individuals with disabilities. Therapists, by virtue of their professional foundation, are a key resource to share their expertise with their community, thus facilitating a successful community integration program for their clients. National Handicapped Sports is one of the active organizations promoting integrated community recreation programs, by providing confidence building programs for disabled individuals through sports, recreation and social activities. As one of the twelve recipients awarded as a host site for 1990 by the National Handicapped Sports, the presenters will share the educational processes, and their successful experiences with clients and several facilities in the Atlanta community in incorporating the above objectives. Results include increased physical functioning with individuals with a variety of physical challenges, and the impact on their overall well being and function. Community results include increased interest of several fitness programs to expand their services to meet the needs of all citizens.

BIOSKETCH ON ELLEN BROACH

Ellen Broach, employed by Shepherd Spinal Center as a Therapeutic Recreation Specialist for three years, has her Master of Science Degree in Therapeutic Recreation from the University of South Alabama. She has 11 years experience providing service in community and clinical settings to individuals with guide range of disabilities.

LEISURE OPTIONS AND EQUIPMENT ADAPTATIONS FOR INDIVIDUALS WITH SEVERE PHYSICAL IMPAIRMENTS

In discussing Therapeutic Recreation Services, I would like to begin with a quote that reflects the overall importance of leisure, plan and recreation. "We are beginning to discover that the meaning of leisure is really the meaning of life. Leisure is freedom and freedom is living. " Leisure is freedom. It is your time to spend any way you choose. Hopefully in beneficial activities that provide you with good feelings and growth. As you know, many individuals with severe physical impairments have many hours of leisure a day. It is in part our responsibility, as service providers, to explore options and show our clients ways to use this time in activities that provide challenge, growth and enjoyment. Then their leisure will be freedom and this freedom will be spent living. It is our philosophy that satisfying beneficial leisure involvement is basic to a persons quality of life. That is everyone, including and sometimes especially persons with severe impairments.

In exploring leisure options it is important to expose oneself to a variety of appropriate activities. It is difficult to realize enjoyment potential or talent with our practical application of an activity. Fending activities to participate in with family members is one key to enjoyable beneficial leisure experience. Also, it is worth noting that any lack of knowledge on our part does not dictate the limit to ones potential. Most of the best leisure activity has come from individuals with physical disabilities. The sip and puff rifle and blow darts are just two examples of many I will present that have best developed high quadriplegics.

There are many leisure activities possible for persons with severe physical impairments. One can participate and develop skills in a variety of cultural arts activities. Photography, using a shoulder harness and if necessary sip and puff or squeeze application on some outs forces cameras is possible. Painting, drawing and clay work are examples of options using a mouthstick. Singing, dancing and drama are also creative and enjoyable options in the cultural arts realm. Computer use for playing the key board and for art is highly recommended for individuals with the resources and interest.

Individuals with severe impairment can also pursue numerous games and hobbies. Cards and board games are played by numbering pieces for instruction and putting holes in the pieces to play game with a mouthstick. Video Nintendo games are played using sip and puff, chin control tongue control with a T-Ban. Radio controlled hobbies with sip and puff and chin control can also be developed. Blow darts is gaining popularity among disabled and non disabled alike. Volunteers, travel and opportunities socialization are obvious choices.

Outdoor activities, including boating, hunting and camping are also potential options. sip and puff rifles as well as adopting rifles with activators to assist in pulling the trigger and rifle stands are used by many individuals to target shooting and hunting, fishing using an electric reel and/or the Vans EZ cast as modified applications for reeling in the catch can be utilized. The Handicapped Scuba association certifies individuals with almost all levels of ability using a class system. Swimming and safe enjoyment of the water environment is also a potential leisure activity for many individuals.

The above are only a few of the many potential activity options available. Most anything can be adapted. It only takes the initial idea and then the desire to follow through with the development process. Creativity and a focus on the final result will naturally lead one through the steps it takes to beneficial leisure involvement.

If you have any questions do not hesitate to call The Shepherd Spinal Center, Therapeutic Recreation Department at 1-(800) 548-6651.

BIOSKETCH ON ANN LEVERETTE

Ann Leverette is a Therapeutic Recreation Specialist at Shepherd Spinal Center in Atlanta. She has worked with the Spina Bifida program there for five years, working extensively with movement exploration for the young child with spinal cord injury and spina bifida. She earned her Masters Degree in Therapeutic Recreation from the University of Georgia.

MOVEMENT EXPLORATION FOR PEOPLE WITH PHYSICAL DISABILITIES

Too often opportunities for physical movement are not given to physically disabled young children. This may be due to medical complications, increased time spent in hospital or overprotectiveness by parents. Lack of resources or trained personnel in schools or the community contributes to a child's inability to experience freedom of movement and/of participation in activities her peers are involved in.

Children learn body awareness primarily through movement. An infant explores her body through kicking her feet, sucking on her toes and fingers and trying to roll. These activities help the infant begin to get a sense of where body parts are and how to control them. If a child does not feel her legs due to spina bifida, she may not learn to distinguish or differentiate her upper half of her body from the lower half. A child with cerebral palsy who can not move one side of his body separate from the other will have difficulty learning tasks which require separation. Activities can be geared for these populations which help children learn about their bodies and how they can relate to the environment as their disabilities allow.

Games which emphasize large movements and movement without bracing and wheelchairs help develop body awareness and spatial orientation. Having the child verbalize what parts of her body is doing or where an object is in relationship to her body also contributes to spatial awareness. Some children may need to be physically manipulated to perform some activities such as rolling or tumbling. As long as there are no medical contradictions, these types of activities should be done in order for the child to experience changes in balance and body orientation. Able bodied children roll, tumble, jump and love to spin for reasons beyond fun. The experiences of free play help develop physiological changes in the development of the neurological system.

For the preschool child, emphasis should be placed on gaining control over large group muscles. A child is more likely to continue active leisure pursuits as a teen or adult if he/she has been given positive experiences to play and move as a young child.

Teaching sensory motor and perceptual motor skills should be done at an earlier age. This promotes reaching normal developmental milestones and gives a child skills for later leisure skill development.

There are few resources for teaching movement exploration for persons with physical disabilities. Most resources for able-bodied children can be adapted to teach basic concepts. Children can be creative in adapting activities to their own needs if given freedom to explore. Following is a resource list of books I have found helpful working with children with spinal bifida.

RESOURCES

Creative Play Activities For Children with Disabilities: A Resource Book For Teachers and Parents, Human Kinetics Publications, Champagne, Illinois.

The Second Cooperative Sports and Games Book, Terry Orlick, Pantheon Books, New York, 1982.

Discovery in Motion, Pamela Gilroy, Communication Skill Builders, Tucson, Arizona, 1989.

Kids in Motion, Pamela Gilroy, Communication Skill Builders, Tucson, Arizona, 1989.

Kids in Action, Pamela Gilroy, Communication Skill Builders, Tucson, Arizona, 1989.

Follow Me, A Handbook of Movement Activities For Children, Marianne Tolbert, Prentrice Hall Press, New York, 1980.

BIOSKETCH ON BERT BURNS

Bert Burns is a 28 year old graduate of the University of Florida, with an degree in Recreation and a emphasis in Therapeutic. He is currently on staff in the Therapeutic Recreation Department of Shepherd Spinal Center working as their sports and fitness specialist. Bert is a member of the National Wheelchair Athletic Association and also a member and a board member of the Dixie Wheelchair Athletic Association. Bert competes regionally, nationally, and internationally in wheelchair track and road racing and has an ultimate goal of making the paralympic team to Barcelona in 1992.

INTEGRATING SPORTS FOR PEOPLE WITH DISABILITIES INTO AN ABLE-BODIED WORLD

Wheelchair sports are growing larger every year. Since the conception of sports for the disabled after WWII when only basketball was offered, to the 1990's when almost any sport you can imagine can be adapted. There are many factors that have contributed to this growth for wheelchair athletes.

First and foremost, disabled people are beginning to be accepted by their able-bodied peers. Wheelchair athletics is beginning to be recognized as a sport and not a diversionary activity for people in wheelchairs. This is happening because of the number of people involved now, and also because of the quality of many of the athletes. In competitive sports the wheelchair athlete must train equally as hard and as long as anyone else, and this being recognized by able-bodied athletes and coaches as well.

Wheelchair sports are also growing because of the advancement and creation of adaptive equipment. For sports such as basketball, tennis and quad rugby, the new 20 pound sports chairs are being used instead of the 50-60 pound ones of the past. There is also the 13-pound, three-wheeled racing chairs used for track and road racing instead of using the normal everyday wheelchair. In the past five to ten years, equipment has been created to allow the disabled person to water ski and snow ski independently. All this new equipment is being produced by people that see the need for everyone to be able to participate in sporting activities, whether disabled or not.

Another reason wheelchair sports are growing is because of better accessibility in general. Gyms, fitness centers, parks and resorts are all becoming more accessible. This is making it easier for the disabled person to become more involved. And with the new anti-discrimination laws going into effect, a program or an event that is offered to the public, must also accommodate the disabled person.

The last reason I will mention that is helping wheelchair sports grow is that it is beginning to grow from itself. Disabled people are starting to see other disabled people recreating and competing and are beginning to become involved themselves.

Like I mentioned earlier, there are many different types of sports in which people in wheelchairs can participate. Some require modifications or adaptive equipment, others require neither. Some of the sports one plays segregated and others integrate right into existing programs. One of the most popular sports to integrate is tennis. Tennis can be played with a wheelchair on both sides or played with a chair on one side and an able-bodied person on the other, this is called up-down tennis. For sports that wheelchair user can not integrate, such as basketball, we find the able-bodied athlete sometimes enjoys trying the wheelchair version. Sounds like reverse integration!

Disabled people not only have recreational sports but competitive sports as well. Some of the sports the disabled athlete may compete in are: Track & field, basketball, tennis, rugby, archery, air rifles, table tennis, weight lifting, water skiing, snow skiing, bowling and road racing.

The disabled person receives the same physical benefits from sports that the able-bodied person does. One has increased strength, increased flexibility, increased cardiovascular fitness, all the same physical benefits, plus tremendous psychological benefits as well. For the disabled person who has been disabled his whole life, and even more so for the newly disabled, self esteem can be very low. Many times this group of people feel there is not many things they can do. Sports are a great way of showing them this is not true. If a person, disabled or not, can compete or participate in a sport and succeed, it makes him realize he can succeed in other areas of this life as well. Sports gives a person the will and courage to try many things he did not think were possible.

If you are interested in trying to integrate disabled people into existing programs or offering new programs for disabled, contact a rehabilitation center in your area. They may be able to do a mailing to ex-patients or give you a list of interested people for your own mailing. The Therapeutic Recreation staff may also be able to help show you how you can integrate your program if you think it is not possible. There are too many disabled individuals out there who could participate and are not doing so and it is our job as recreation professionals to show them what is offered.

POSTERS

The Author is Unable to Attend.
Paper Left in Proceedings at Her Request.

BIOSKETCH ON YVONNE DUFFY

Yvonne Duffy, a polio survivor and part-time ventilator user, is a freelance journalist. She wrote All Things are Possible, a study of 77 women with physical disabilities, and is currently writing a book on improving self-esteem. She lives independently with her sixteen year old cat, Mignon, in Ann Arbor, Michigan.

CONFIDENT AND CLEAR: A HEALTHIER SELF-IMAGE FOR WOMEN WITH DISABILITIES

Despite the rising status of women in the past few decades, non-disabled women are still earning about $0.64 for every dollar earned by a man. Women with disabilities, however, are earning less than $0.30. Despite these dismal statistics, some women with disabilities break through social and economical barriers and achieve success. A healthy self-concept is a key characteristic possessed by these women. This paper will explore how other women with disabilities can improve their self-esteem.

Everyone begins life with an intact self-image, but as we grow-up our reactions to external forces frequently erode our good feelings about ourselves, especially if we are female and have a visible disability. Fortunately, everyone has the ability to change, and we do not have to retain a negative self-image. If we are unhappy with our inner selves, we can always strive to become someone we can love and respect.

Essential to a healthy self-esteem is the belief that we have some control over our lives. When a disability results in our depending on family members or personal assistants, allowing them to make decisions for us may seem easier. But, as adults, we are responsible for ourselves regardless of when the disability occurred or how we feel limited by it. By responding actively, we are making a commitment to awareness. For example, a former roommate let her personal assistant choose what she would wear each day; taking over this decision for herself led to other changes as her self-esteem grew. A few years later, she was teaching assertiveness at the local community college.

Many women are still being socialized to be passive and deferential to those in authority, and this is especially true of women with disabilities. Indicative is the Multi-Phasic Personality Inventory given to several women with physical disabilities in the Ann Arbor, Michigan area which showed that most reacted to problems by becoming depressed, turning their anger inward against themselves.

All of us have a combination of positive and negative factors in our lives. We sometimes admire people who seem to have an easier, more successful life then we do, but if we knew them better we would probably find that they have as many problems as we do. Identical circumstances that trigger one person to pull into a shell can spur on another to greater achievement and personal growth. Although we cannot control the external factors in our lives, we can certainly control our reactions to them.

We can exercise this control through assertiveness and honest communication. Acting in an assertive manner tends to equalize the balance of power between two people in conflict so that each will win something by resolving the conflict.

Learning to be clear and unafraid about who we are and what our needs are is an important step toward a more positive self-esteem. When one communicates assertively in personal relationships, the other person often finds disclosing his/her feelings and needs easier, resulting in a more honest, open relationship.

The two greatest barriers to effective communications are failing to listen and sending mixed messages. Active listening means listening without interruptions, ridicule, or criticism. If you are interrupted while presenting your views, wait quietly until the speaker is finished, then, in a calm tone, resume from the point of the interruption. Paying attention to the speaker's facial expression and other body language as well as the words is always important. Ask yourself what that person might be feeling at that particular moment. Check your perceptions periodically either by asking if what you understand is what the speaker is trying to convey or by rephrasing a statement to be sure that you have understood it correctly.

Communication is clearest when your body language matches your words. For example, if you smile while telling a habitually late personal assistant that you require her/him to be punctual from now on, you are sending a mixed message. Your words tell your employee that her/his performance must be improved, but your smile conveys that you do not really consider this problem a serious one. By giving this mixed message, chances are good that your need for punctuality will not be met.

Without doubt, eye contact is the most effective kind of nonverbal communication. George Herbert, a seventeenth century poet, wrote, "The heart's letter can be read through the eyes," an observation that is just as true today. Trust is established through eye contact. Think about how uneasy you feel when talking with someone who refuses to meet your gaze and looks above your head, at the floor, or off to one side. Even without clear speech or an ability to pound the table to emphasize a point, virtually everyone can communicate this way.

Becoming assertive is an ongoing process. An important part of this process is becoming aware of personal patterns of behavior communication skills, areas where you feel assertive and those that still need work. Think of a situation with another person when you did not communicate honestly. A friend may have asked you to serve on an advisory committee for a sheltered workshop. You knew it was important, but you were already spread thin with several commitments and had resolved to allow yourself some leisure time this year. What has been your response in similar situations? Could you have handled it more honestly?

As you visualize the person, go over different responses in your mind. Stand or sit as straight as you can, and look directly at him/her. Speak in a low, well-modulated voice. Remember to take responsibility for your own feelings by beginning sentences with "I feel," "I want," "I need," etc. instead of phrases like "You make me feel". If possible, role-play the situation with another person. Try different approaches, and ask for feedback on which were most effective from the person with whom you are rehearsing. Remember to practice listening skills.

When you feel comfortable, approach the real person with what you want to tell them. Visualize a successful outcome and give yourself positive messages of encouragement. Just before you begin, take several deep breaths to help you relax.

After each assertiveness session, evaluate how well you met your goals. Did you say what you wanted to say in a direct, calm way without sounding apologetic? Were you standing or sitting in an assertive posture? Did you stand up for your rights without infringing on those of the other person? Finally, how did you feel about yourself afterwards?

Do not be discouraged if you did not do as well as you had hoped. Assertiveness is a skill just like reading, playing the piano, or riding a bicycle and requires lots of practice over a significant period of time. Everyone has the right to make mistakes.

At the heart of every instance of successful communication is mutual respect, respect for one's self as well as for the other person. Maintaining eye contact, giving clear messages in which body language matches your words, and using phrases like "I feel...," "I need...," etc., instead of those implying blame like "You make me feel...," demonstrate this respect. When one feels respected, self-esteem increases. By consistently practicing these simple steps, women with disabilities can enhance self-esteem and begin to take control of their lives. As this happens, success in everyday activities and relationships will improve. People who feel good about themselves produce good results.

BIOSKETCH ON MICHELLE W. EDMONSON

Michelle W. Edmonson, OTR/L, Director of Occupational Therapy at RWSIR, is a graduate of Medical College of Georgia and has nine years of clinical experience.

BIOSKETCH ON MICHAEL DANIELS

Michael Daniels, M.Sc. (OT), OTR/L, a senior therapist at RWSIR, is a graduate of Bombay University in India and has five and one-half years of clinical experience.

BIOSKETCH ON JOHN ABNEY

John Abney, OTR/L, a senior therapist at RWSIR, and NDT certified, is a graduate of University of Kentucky with three years of clinical experience.

BIOSKETCH ON SHELIA MILLER

Shelia Miller, OTR/L, a staff therapist at RWSIR, is a graduate of Texas Women's University with one and one-half years of clinical experience.

BIOSKETCH ON RILEY HAWKINS

Riley Hawkins, a Rehabilitation Engineer, obtained his degree for Georgia Tech Engineering Science and Mechanics. He also has a certificate in orthotics from Northwestern University.

OCCUPATIONAL THERAPY: AN INNOVATIVE PORTFOLIO

From the polio days at Warm Springs, Georgia, through current research and technology endeavors at the Roosevelt Warm Springs Institute for Rehabilitation (RWSIR), Occupational Therapists (OT's) have been a vital link in facilitating people with disabilities in becoming productive people of society.

The Occupational Therapy Staff (OTS) of the RWSIR recognize the tremendous impact technology and innovative ideas have on the quality of a person's life. This is especially true for people with disabilities who may utilize technology and creative solutions to surmount barriers resulting from functional limitations.

As OT's, we feel that we are in a unique position to serve as a bridge between our clients and technological advances. Having thoroughly evaluated clients' activities of daily living, cognitive and perceptual skills, strength, coordination and sensory systems, we arrive at an assessment of their abilities and needs. During this process, a working rapport and mutual trust develop between therapists and clients. Also during the process, a variety of treatment methods have been attempted with individual clients. Challenges are often encountered. Some of these challenges present themselves repeatedly and explorations of other options are deemed necessary.

The OTS has chosen to problem solve several of these recurring challenges through creative new product development. This portfolio of devices is presently being researched and successfully utilized with our client population.

Our portfolio includes the Anti-Dominant Synergy Splint, Abney Brace Donner, "Bump n Beep" Object Detector, and the Pivoting Universal Shaver Holder (P.U.S.H).

The Anti-Dominant Synergy Splint attempts to find a practical solution to decrease hypertonicity encountered in a hemiplegic person's upper extremity and to assess the splint's effects or passive range of motion of this extremity. The splint is constructed according to a standardized measurement system with modification at the distal end as required for each individual client. Pre- and post-splinting evaluations of the hypertonicity and passive range of motion of the upper extremity are documented on a specific form. To decrease the error factor involved in this research project, only one designated therapist performs the evaluation.

The Abney Brace Donner was developed to facilitate independent one handed lower extremity brace and/or shoe donning. It acts as a stabilizer. This device may be appropriate for an individual with functional use of one upper extremity who has been unsuccessful in using traditional adaptive equipment. This individual must be able to follow directions and/or demonstrations, have awareness of affected extremities, possess good dynamic sitting balance, and be motivated to become an independent dresser. It is a wooden device that can be angled from 0 to 50 degrees. A flip-in shoe horn and other accessories may be added as needed.

The "Bump n Beep" was developed for usage with persons whose disability involves neglect or decreased awareness of one side of their body. The purpose of the device is to increase body side awareness and thus increase independence in indoor wheelchair mobility skills. The "Bump n Beep" acts as an object finder which is attached to the person's wheelchair on the side of neglect. When a person navigates the wheelchair into an object a beeping noise is elicited. The device is assembled from a modified metal curb finder, metal clamp and an electronic beeping circuit.

The P.U.S.H. was developed to provide independence in electric razor shaving for persons with grasp deficits. The P.U.S.H.'s unique feature is its pivoting action. It can accommodate most commercially available razors. The P.U.S.H. is fabricated from an adjustable metal clamp attached to a metal rod with a pivoting fulcrum. This device inserts easily into various types of hand splints.

In conclusion, this OT portfolio of new ideas will have a positive impact on the quality of life our clients experience. As technology of the past diminished the effects of polio, we hope that our portfolio of new technology will diminish the need for assistance of disabled people in today's society.

BIOSKETCH ON SHARENE LOWERY SMOOT

Sharene Lowery Smoot is Research Coordinator for Georgia Regional Hospital it Atlanta, Georgia and a teacher in the Vocational Education Program. She has worked with persons who have developmental disabilities for nearly 20 years. She has a Ph.D. in Research and an Ed.S. in Special Education from Georgia State University.

INSTITUTIONALIZED ADULTS DISCOVER ABILITIES THROUGH DATABASE MANAGEMENT

The procedure for teaching copying consists of using the caps lock key so that data on the screen appears in all caps. The 40 column mode makes letter recognition easy for beginners. A Post-it can be used to underline the words to help the beginner find their place when glancing back and forth from screen to data to keyboard. Truly illiterate persons are more successful starting out by copying personal data such as their name, address, social security number, etc. with a typewriter or simple word processor such as is included in the Sampler program for the IBM PC Jr. Higher functioning persons can begin data entry with "one finger" typing skills, but when an interest is shown in touch typing, copying lines from a typing book with a word processor provides plenty of repetition. Programs such as MasterType or Typing Tutor are also fun.

The work activity component comes from producing labels. An institution can use many types of labels. Simple one line labels for file folders are timesavers for administrative secretaries, especially at the beginning of a new fiscal year. Two line labels are sufficient for interdepartmental mailings. The hospital pharmacy also has need of labels. Four line labels are used for routine mailings to community agencies and for return address labels. Commercial jobs can be obtained from persons with small businesses or marketing and sales departments of larger firms. Most jobs consist of making mailing labels for targeted consumers from professional directories or long printouts. Repeat customers introduce the need to learn to delete and modify existing data.

In addition, the work activity participants are paid for their computer work on the basis of piecework rates depending on prevailing local wages. Separate time studies can be done for various jobs depending on the number of lines in a label (usually labels have 33-35 characters per line) or the number of labels in a run.

To summarize, simple computer technology is used to foster vocational abilities through database management as a component of a work activity program. Institutionalized patients with severe and varying disabilities earn wages through the production of mailing labels. On discharge, many of the participants apply for further training with Rehabilitation Services, Goodwill Industries, and the Private Industry Council.

George has spastic quadriplegia, is illiterate, and has been institutionalized for over 30 years. Yet, he uses an IBM PC Jr. to run mailing labels at over 50% of normal rate. The only adaptations are the two thick pencils that he holds in each fist and a piece of foam that holds the keyboard on his lap in his motorized chair. Once the disk is placed in the drive for him, he can add, modify, and delete data in whatever file he is asked to work on. He can program a smart key to run the finished labels and handles the printer independently once it is set up within reach.

The work activity program at Georgia Regional Hospital in Atlanta, Georgia has existed in its present form for almost six years. Computer training has been a part of the program since the beginning even though there is only one computer. It is presented as just another job that patients can choose to do as a part of their work adjustment. Most of the successful participants have varying forms of severe mental illnesses or mental retardation with other disabilities such as dyslexia, illiteracy, cerebral palsy, speech impairments, deafness, head injury, tardive dyskinesia, seizures and behavior disorders in addition to their primary disabilities. Their ages range from 17 to over 50. Most need no adaptive devices, but a software program to disable the repeat function of the keyboard is often helpful.

There are few prerequisite skills needed. These are the ability to press one key at a time, the ability to match upper and lower case letters, and the ability to copy from left to right, one letter at a time. (These skills can be taught on an old electric typewriter if needed.) Computer specific skills include the use of the space bar, backspace, arrows, and enter keys. The simple menu of PC-FILE and the repetition inherent in a database program producing mailing labels insures quick success.

The small keyboard of the IBM PC Jr is ideal for physically challenged persons. The keyboard is light enough to be placed directly on a wheelchair lapboard if needed and can be covered with kitchen plastic wrap if drooling is a problem. It leaves plenty of room for a typing stand to which the data to be input can be attached with a clip.

BIOSKETCH ON TIM NORTON

Tim Norton graduated from Georgia State University and is certified by the National Council for Therapeutic Recreation. He has more than three years experience with a variety of physically challenged individuals, including spinal cord injury, traumatic brain injury, CVA, multiple sclerosis, and Guilliame Barre'.

ADAPTED RECREATION THERAPY

A vital role of a therapeutic recreation specialist (TRS) is the education of leisure abilities to individuals with a variety of disabilities. This education is designed to help patients acquire the skills, knowledge, and attitudes needed for independent leisure or social functioning. Under the guidance of a TRS, the following goals and objectives are frequently worked on with our clients:

- Developing an understanding of the relationship between disability and leisure pursuits.
- Increase awareness of feelings, beliefs and values regarding leisure.
- Identification of present and deserved leisure.
- Patterns and benefits.
- Development of a constructive use of leisure time.
- Increase awareness of community leisure resources to improve coordination.
- To improve decision making abilities.

Through leisure education clients are able to learn or relearn specific skills like fishing, gardening, golfing, aquatics, and arts and crafts.

Fishing:

Fishing is an area of leisure that can be enjoyed by individuals of all ages and disabilities. Clients expressing a present or previous interest in this area, are provided with information and instruction on a variety of adapted fishing equipment. The goal of this program is to increase the clients independence and ability to participate in this activity with minimal use of adapted equipment.

Raised Bed Gardening:

Individuals with disabilities who enjoy gardening can continue to engage in this activity by utilizing a raised bed garden. The garden structure is located above the ground and can be adapted to any area providing easy access to the disabled. Through Raised Bed Gardening individuals can participate to their fullest capabilities and be as independent as possible when gardening.

Adapted Golf:

Golf is a rewarding and popular sport that can be played by anyone regardless of age or physical challenges. Through instruction, exercise, and adapted equipment, limitations can be overcome and skills are developed to help the physically challenged join in the social and competitive settings that all golfers enjoy.

The Emory Recreation Therapy Adapted Golf Program meets once per week at Sugar Creek Golf Course. Group classes are taught and lasts one hour per session. Each session is instructed by a licensed recreation therapist. Each patient is evaluated upon entering the adapted golf program and individualized goals are established with the consideration of patient desires and physical abilities.

Adapted Aquatics:

Adapted Aquatics is the provision of a variety of adapted swimming techniques utilized to meet each participant's individualized physical, psychological and social needs while in a water environment. The main goal of our Adapted Aquatics program is to enable participants to be as independent as possible in the pool no matter what challenges the participant may have.

ARTS AND CRAFTS

Arts and crafts can be enjoyed by any person regardless of age or disability through the use of adapted equipment. Arts and crafts provide individuals with a creative outlet, while increasing feeling of confidence and self-worth. Multi-level treatment issues can be addressed through an art and/or craft project.

Through the use of adapted techniques and equipment these leisure pursuits can be pursued by clients of all ages and a variety of disabilities.

BIOSKETCH ON JOSEPH P. LANE

Joseph P. Lane, MBA, MPA, is Associate Director of the Center for Therapeutic Applications of Technology, and co-editor of Technology and Disability. Mr. Lane is co-author of Managing Information Systems, 1989, published by Jossey-Bass. Mr. Lane collaborates with faculty and agencies on developing and submitting competitive grant proposals.

BIOSKETCH ON WILLIAM C. MANN

William, C. Mann, Ph.D., OTR, is Associate Professor and Chair of the Department of Occupational Therapy, University at Buffalo. Dr. Mann is also Director, Center for Therapeutic Applications of Technology, currently conducting $2.5 million in grants concerning technology and disability. Dr. Mann is co-editor of a new journal, Technology and Disability.

TECHNOLOGY AND DISABILITY: UNIVERSITY AT BUFFALO

Three programs at the University at Buffalo address technology and disability:

1. The Center for Therapeutic Applications of Technology conducts sponsored research, service and training projects,
2. Editorial direction of a new journal titled, Technology and Disability, by Andover Medical Publishers, Inc.,
3. Newly initiated graduate-level education and research opportunities in rehabilitation and disability.

Information on the three programs is available upon request.

Center for Therapeutic Applications of Technology:

Thirty-three million Americans have disabilities which limit functions basic to daily life. Assistive devices based on high and low technology have potential for increasing functions of persons with disabilities. However, this potential is largely unrealized because most consumers lack knowledge of assistive devices; knowledge regarding availability, appropriate use, maintenance and financial assistance.

The Center for the Therapeutic Applications of Technology (CTAT) seeks to mitigate the limitations which disabilities impose by increasing knowledge about the appropriate use of assistive technology, and increasing public access to this knowledge. This objective involves persons with disabilities in: (1) research on device utility, (2) training for academic and clinical professionals, (3) services for consumers and (4) public policy analysis. The CTAT involves faculty from eight departments collaborating on varied research, service and training projects such as:

Model for Interagency Coordination of Technology Resources, involves thirty-five public and private agencies in a state-wide service delivery network and a centralized information center.

EXTEND: ***Adopting Environments for Work Placement,*** helping persons with physical and sensory disabilities secure and maintain employment through devices and work-site modifications.

COMPETE: ***Computer Preparation, Evaluation, Training and Employment,*** provides computer-based training and competitive job placement to persons with mild to moderate cognitive disabilities.

ACHIEVE: ***Achieving Employment and Independence with Assistive Devices,*** assesses consumer satisfaction with assistive devices in the workplace, and uses consumer feedback to improve device utility.

Adaptive Technology Assessment and Training, provides technology assessments and device training to benchmark performance levels for persons with low vision or blindness.

Assistive Technology on Campus: Preparation for Meaningful Careers, improves student access to campus computer resources, along with training and career counseling for transition to the workplace.

Journal of Technology and Disability:

Technology and Disability is a new journal about the applications of technology, rehabilitative and assistive devices for persons with disability. Technology and Disability is published by Andover Medical Publishers, Inc. The editors are William C. Mann and Joseph P. Lane of the University at Buffalo.

Technology and Disability is a quarterly monograph; each issue focuses on a specific topic. The term technology includes both low technology and high technology devices applied to human functions, particularly functions supporting education and employment. The term disability includes persons of all ages with any types of physical, sensory or cognitive impairments.

Technology and Disability is intended for a broad audience encompassing architects, advocates, counselors, engineers, industrial designers, nurses, personnel directors, physicians, service providers, special educators and therapists. Consumers with disabilities should also find useful information in this applied journal. Author guidelines are available upon request.

Graduate Research and Education Opportunities:

The University at Buffalo faculty recognize technology's potential to improve the quality of life for persons with disabilities. In addition to conducting collaborative research, faculty and graduate students initiated graduate education in a transdisciplinary model. Students still apply for admission to specific departments, but have increasing opportunities to take courses, conduct research and attend seminars with students and faculty from other disciplines involved in disability and rehabilitation. Graduate Opportunities for Education and Research in Disability and Rehabilitation, available upon request, provides additional information on the schools, departments, faculty and facilities involved.

WORKING

BIOSKETCH ON PATTI BARRETT

Patti Barrett is employed by the State of Florida, Department of Labor, Division of Vocational Rehabilitation as a Rehabilitation Engineering Technology Consultant. She is also completing her Ph.D. at Florida State University where her dissertation examines the effects of ill fitting clothing that emphasizes a disability rather than distracts from it which may cause someone to appear more disabled than they actually are, leading to stigmatization.

MEETING THE TECHNOLOGY NEEDS OF FLORIDA'S DEVELOPMENTALLY DISABLED WORK FORCE

Low-Tech Adapted Equipment for Developmentally Disabled Consumers is a contract jointly sponsored by the Department of Labor, Division of Vocational Rehabilitation and the Florida Developmental Disabilities Planning Council.

Under the terms of this joint project Patti Barrett, a Rehabilitation Engineering Technology Consultant, provides assistive technology to developmentally and physically disabled individuals and training to facility personnel. During the first year of this contract rehabilitation engineering technology services were provided to clients performing contract work in ten selected sheltered workshops throughout the state. During this second year the contract has focused on providing low-tech adapted equipment to individuals preparing for, or engaged in, supported and competitive employment, in facilities with supported employment programs.

The Rehabilitation Engineering Technology Consultant evaluates supported employment clients for low-tech adapted equipment in one of two ways. First, an individual may be evaluated in general terms. For example, the person might be more productive at any job if they were provided with a reacher, mouthstick or lap board. Second, individuals can be evaluated for a specific job. For example, the person might be considered for placement in one of two jobs. The rehabilitation engineer may be able to recommend equipment for job one, and if they were placed in job two, equipment specific to that job. When the person is placed, assistive technology is provided at no cost to the client or facility.

The contract also provides training to facility personnel, especially job coaches, to enable them to determine which clients might benefit from assistive technology and to develop an awareness of new products and resources. The training session is usually held during a facility in-service day prior to client evaluations so the facility staff is familiar with the services the rehabilitation engineer is able to provide. The training session lasts an hour and consists of a twenty minute video which demonstrates a range of solutions to problems usually encountered in workshops and supported employment. The video follows the progress of the contract by showing clients using adapted technology to perform workshop tasks; to perform on janitorial and lawn care work crews and enclaves; to fabricate jewelry in preparation for supported employment; and finally peer training without adapted equipment. The video is followed by a question and answer period, equipment demonstration, and a discussion of equipment vendors and catalogs. All consultations and low-tech assistive technology are provided through the contract at no cost to facilities with supported employment programs.

BIOSKETCH ON BRENDA CARSON

Brenda Carson is a recognized leader in the field of Supported Employment. As an employment specialist with United Cerebral Palsy of Greater Birmingham and a national consultant, she has been successful in negotiating and facilitating supported employment opportunities for a number of persons with severe disabilities. She is particularly effective in tailoring supported employment jobs for persons with significant motoric and communication involvement.

SUPPORTED EMPLOYMENT AND THE UTILIZATION OF ASSISTIVE TECHNOLOGY FOR SEVERELY HANDICAPPED INDIVIDUALS

United Cerebral Palsy of Greater Birmingham has caused a stir of excitement in the employment field in the region due to its unique and innovative approach to supported employment for severely handicapped persons. United Cerebral Palsy of Greater Birmingham is part of a National Research and Demonstration Project on Supported Employment funded jointly by the United States Department of Rehabilitation Services Administration, United Cerebral Palsy Associations, and the State of Alabama Vocational Rehabilitation Services.

The stir of excitement in the human service field stems from our success. We are putting severely physically disabled individuals to work and they are doing excellent work because of the use of assistive technology and other support services.

Our uniqueness is our assumption that employment is possible for all persons once considered too disabled to be employable through traditional vocational rehabilitation services.

The model for our National Demonstration Project on Supportive Employment is innovative and is highly successful in Birmingham, Alabama. The background overview and model will be discussed in the first part of the workshop with emphasis on the critical role of technology in the employability of persons with severe physical disabilities. United Cerebral Palsy of Greater Birmingham has developed our own approach to meet the technology needs of our clients. To this point virtually every job we have developed has required some form of rehabilitation technology which is paid for by the State of Alabama Vocational Rehabilitation Services.

The most important concerns are for clients and job match. It is imperative to recognize and deal with the fragile relationship that exists in the early stages of employment. Assistive devices must be available not only at the earliest possible time, but must continue to fit the needs of the employee and the demands of the job and the work place. This presentation will provide a thorough examination of this challenge.

The purpose of this presentation is also to examine the theory, methodology, and model of supported employment for the severely physically disabled. Through an in-depth analysis of four successful supported employment case studies the following will be examined:

a. Eligibility,
b. Employability,
c. Job matching examined in the light of emerging practices,
d. How the Vocational Profile differs from the traditional assessment/evaluation procedure,
e. The local referral committee,
f. The profile meeting,
g. Individualized and personalized job matching and job development,
h. The use of negotiation for custom designed jobs,
i. Training and facilitation
j. Rehabilitation technology, and
k. The critical role of networking between employers, parents, agencies, especially local vocational rehabilitation services, and various organizations will be discussed.

"Technology has put man on the moon and people with severe disabilities on the job." For the four case studies that will be discussed and viewed, adaptive devices have made their work easier and opened possibilities for new tasks on their worksites, not previously thought possible.

This presentation is designed to assist participants in understanding more about the needs of the severely physically disabled and where technology and adaptive devices can meet those needs in the work place. It is also designed to promote creativity.

The utilization of adaptive devices in most cases will actually begin and end with the disabled persons themselves who best know their own unique situations. The importance of the client's input will be discussed, i.e. how and when it should be included in an evaluation. Many times assistive devices are easily designed, purchased, and implemented but in some cases the value of consulting experts in the field increases when the severity of the disability demands "state of the art technology". Because of the importance of the evaluations, methods of evaluation and effectiveness will be discussed and demonstrated.

Current issues, innovations, information relevant to successful employment and assistive devices will be explored and discussed (disseminated). Printed materials will be made available to all participants. The presentation will include slides and video tapes. Questions will be encouraged throughout the presentation.

BIOSKETCH ON SALLY DORMINEY

Sally Dorminey, an instructor in Information Office Technology at Valdosta Technical Institute, Ms. Dorminey has degrees in Business Administration, Curriculum and Instruction and a Specialist Degree in Business Education from Valdosta State College. She had experience with blind students at St. Augustine Technical Center prior to teaching in Valdosta.

BIOSKETCH ON ANDREA SCHOEN

Andrea Schoen, a high school graduate from Kansas City, Missouri. Ms. Schoen is enrolled in computer training at Valdosta Technical Institute. Prior to becoming totally blind in 1988, she had worked as a dental receptionist, a supply clerk for the Air Force and clerical worker for TWA.

BIOSKETCH ON SUSAN WEEKS

Susan Weeks, a graduate of Baldwin County, Georgia High School, Ms. Weeks completed her computer training at Valdosta Technical Institute. She was partially sighted until age twenty. She is employed part-time as a medical transcriptionist and is active on the Valdosta Mayor's Council for the Handicapped.

"FROM ZERO TO SIXTY IN THIRTY-SIX MONTHS"

This panel discussion will involve blind Rehabilitation Services clients and their computer instructor in a first-hand account of what they have encountered in their effort to become employable in the computer field.

Topics to be discussed will include:

1. Equipment Needs: Assessment of needs, resources and funding.
2. Training in a Local Vocational-Technical Setting: Adaptations by student, instructor, and staff.
3. Employment: Employer attitudes and expectations from the blind job; Applicant's inward viewpoint.

Lessons learned:

1. Equipment Needs: Who determines this? Who provides this? Who coordinates this?

2. Training in Vo-Tech Setting: What adjustments has the instructor made for blind students in computer training? What challenges did the blind students create for the school? What advantages/disadvantages does a Vo-Tech setting present as opposed to a training center designed for handicapped participants?

3. Employment: What employer latitudes were encountered? How realistic were employer expectations? How realistic were applicant expectations?

4. Lessons Learned: What have we learned that can help future client/students and other Vo-Tech programs?

BIOSKETCH ON DR. PHILIP DILLARD

Dr. Philip Dillard is Professor of English and Chairman of the Division of Humanities of Floyd College in Rome, Georgia. Totally blinded by retinitis pigmentosa, he holds a bachelor's degree from Valdosta State College, an M.A. from Peabody College, and a Ph.D. from the University of Georgia. He is excited about the potential benefits available to himself and other learners; benefits made possible by the Xerox/Kurzweil Personal Reader recently purchased by Floyd College and housed in his office.

BIOSKETCH OF PHIL REID

Phil Reid who is legally blind, is a graduate of West Rome High School and has been employed by the Sara Hightower Regional Library for the Blind and Physically Handicapped since November 1977. It is his responsibility to duplicate magazines, newspapers, books, Sunday School lessons and sermons for patrons in an eleven county area of Northwest Georgia. He also demonstrates the Kurzweil Personal Reader and the braille printer.

BIOSKETCH OF DEANA WALLACE

Deana Wallace who has been blind since birth, is a graduate of Rome High School. She is a Phi Beta Kappa history graduate of Emory University and received an M.A. degree in history from the same school the following year. For three years she was an instructor of history at the College of the School of the Ozarks in Point Lookout, Missouri. Since July 1989, she has been employed part-time at the Sara Hightower Regional Library, Library for the Blind and Physically Handicapped in Rome, Georgia.

THE KURZWEIL PERSONAL READER
IN PERSONAL AND PROFESSIONAL SERVICE

The Kurzweil Personal Reader Model 7315 is the fifth in a series of machines developed by Kurzweil Computer Products for use by the blind and physically handicapped. The equipment consists of three major units: an electronics unit, a hand scanner, and an automatic scanner. It enables the user to read printed material in books, magazines, and newspapers in addition to single sheets of copy done on typewriters and word processors. It does not recognize handwriting. The operator may scan up to forty pages of print at once and store it in the memory, reading it while scanning is still in progress or after it is completed. He may hear the material read by the electronics unit in clear synthetic speech with a choice of no less than nine voices, or the user may transmit the material to computer disk or braille print when appropriate auxiliary equipment is available. When listening, the user may back up and hear sections again or leap forward to choose new sections. He may request the machine to spell words and to read punctuation marks in the text. He may skim read by jumping from sentence to sentence or paragraph to paragraph or page to page. The machine will read line by line or in "sentence mode". In either case, it observes punctuation accurately and varies rate and intonation to correspond. The operator may even "mark" places in the text electronically and return to review them later. He may also set the reading rate and the degree of intonation. It is almost scary how "human" this equipment sounds, and in fact, as time passes, the voices come to seem like those of familiar friends who never tire of reading to us and responding to a dazzling array of special requests.

Unlikely as it might appear, this marvelous equipment is efficiently operated at fingertip convenience by means of a simple keypad with eighteen buttons. In fact this keypad operates in four different modes: setup keypad, reading keypad, communications keypad, and calculator keypad. Convenient spoken messages inform the reader when the equipment is ready for operation, when the text is illegible (often because the page is upside down), when the memory is nearing capacity and roll-over, and when the scanner is off or unplugged. The scanner will accommodate texts in columns up to four columns per page and will automatically adjust to the appropriate column setting, or the operator may choose to set appropriate column setting, or the operator may choose to set the scanner for one or more columns. Changing the reading voice, the speed, and the intonation is quick and easy.

What a glorious invention this is! Yet the beginner will encounter a few frustrations. If the title of an article is in letters too large for recognition, the voice simply omits the title and goes to the author's name or the first line of the first paragraph. When a page begins with pictures or charts, the message voice may tell the reader that the page is illegible or may be upside down. Text in boxed lines and also divided pages and columns may confuse the scanner and direct it to read the material in disjointed segments. Text in red cannot be read, and light colors are a problem. If you try to read a table of contents with your setting on multiple column scanning, you will hear all the titles in one list and then all the page numbers in another. The reading voice, unfortunately, does not pause for the white space between the bottom line of text and the first line of footnotes or the running title at the top of the next page; rather, the voice just plunges on at 200 words per minute, breaking the text in mid-sentence, voicing the footnotes and then the running title and then resuming in mid-sentence on the next page. One learns to listen hard. If the text has imperfect letters poorly printed, the voice simply pronounces the word without those letters--pot instead of port if the r is not clear. And there are troubles with abbreviations and numbers. Instead of telling you that Dr. Smith was born in 1919, it might say that Drive Smith was born in eye-nine-eye-nine.

These frustrations, however, are a small price to pay for the joy of having a cooperative, pleasant, untiring friend ready to read to you as long as you can stay awake, accepting any boring material you bring, and always in privacy and with independence.

BIOSKETCH ON KENNETH P. WHITLEY

Ken Whitley is owner/operator of Key Technologies, a company specializing in assistive technology (augmentative communication, environmental control, and computer access and applications) products and services. He is a practicing speech and language pathologist/consultant in assistive technology and has extensive experience in serving disabled persons (formerly director of the Augmentative Communication Resource Center at Western Carolina Center, a residential facility for developmentally delayed persons where he worked for over 13 years). A past president of the North Carolina Augmentative Communication Association, he has presented many workshops on assistive technology throughout the southeast.

DIGITAL RECORDING COMMUNICATION DEVICES

Augmentative communication devices provide many nonspeaking persons with the opportunity to express themselves for the first time. These persons are able to participate more in conversational, educational, recreational, vocational, and basic care events. Unfortunately most electronic, voice-output augmentative communication devices require the use of time consuming, complex programming procedures which often results in less than full implementation by therapists/teachers or family members/caregivers. The voice quality of text-to-speech devices ranges from at worst highly robotic, to at best significantly less than human speech. This may result in rejection of the device by the user.

Recently developed digital recording communication devices offer nonspeaking persons a number of advantages not previously available. In addition to lower cost and high portability, digital devices can be set-up in a fraction of the time and with minimal programming steps than other devices. Text-to-speech devices may require hours of learning/programming time by the therapist. Digital devices are simple to learn and can record the same number of messages in minutes. Since digital devices records sound, true human speech is produced. This enables the voice selected for recording to be of appropriate age, gender, and dialect for the individual user.

This presentation will review the use of digital recording communication devices for nonspeaking persons. Comparison to text-to-speech devices will be made. Four new digital communication devices, Zygo's Parrot-JK, Steeper/Parrot-JK, ScanMacaw/Macaw, and text-to-speech communication devices will be demonstrated.

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PORTABLE ELECTRONIC WRITING AIDS

In order to succeed academically, as well as in most vocational settings a person has to be able to read and write adequately. However, many persons with physical disabilities are unable to perform the pencil-paper tasks necessary to participate in school or the workforce. These persons may have the required input (reading) skills, but cannot output (writing) at the level they are cognitively capable of due to motor involvement.

Numerous persons not able to legibly use a pencil and paper demonstrate adequate keyboarding skills. Some have used typewriters or computers as writing tools, but have found these devices to be inadequate due to required multiple key selection as well as excessive time required for document production. Editing features are often lacking when using typewriters. Also typewriters and personal computers are not portable in a practical sense. Users are not able to easily transport them when changing classes or moving from one office to the next.

Recent development of portable, electronic writing aids have provided a viable option for numerous physically disabled persons. This presentation will examine four such new aids from Zygo Industries. The Notebook II, Talking Notebook II, Secretary, and QED Scribe offer a variety of writing assistance features.

The NB II/TNB II are capable of producing any document that can be written on paper by hand, typewriter, or computer with the addition of offering abbreviation-expansion storage and retrieval of frequently used information which dramatically reduces writing time. Both devices incorporate a simple, but full functioning word processor with complete editing options. Other features include Graphic Editor which is used to draw and store graphic symbols and Math Scratchpad that permits mathematical computation similar to that performed with pencil and paper. This TNB II also offers speech output from text files or from Talking Scratchpad, an augmentative communication program. Both these devices are portable and can be easily carried or mounted on their own wheelchair mounts.

The Secretary/QED Scribe are highly portable (weighing two pounds each) miniature typewriters. Both devices have single line LCD's, onboard printers, and built-in keyguards. Both use typewriter style QWERTY layouts. The Secretary has numerous word processing and editing features as well as the capacity to store and retrieve 52 printed messages and up to 20 digitally recorded messages. The QED Scribe offers less work processing capability and up to 26 printed messages held in memory.

The use of electronic writing aids can provide the text-production tools needed by physically impaired persons in order to more fully participate in the "information age".

BIOSKETCH ON ZEKE ISAACS

From the onset of his disability in 1977, Zeke Isaacs wanted to get back to participating in outdoor sports. Zeke first heard about Georgia Outdoor Sportsman when it was in its infancy 5 years ago through Shepherd Spinal Center's peer support team. He soon became involved, having served as Chairman of the executive committee for one year. Zeke has been President of Georgia Handicapped Sportsmen since July of 1989.

GEORGIA HANDICAPPED SPORTSMEN, INC.

Georgia Handicapped Sportsmen, Inc. is a non-profit organization of individuals with physical disabilities. Its purpose is to promote friendship, fellowship, mutual understanding and cooperation among handicapped people by encouraging them to participate in outdoor sports.

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Georgia Handicapped Sportsmen, Inc. organizes deer hunts, turkey hunts and dove shoots during hunting season for those who enjoy hunting. Many of our members have all terrain vehicles especially equipped to suit their needs. This gives the handicapped hunter a feeling of independence and makes the hunt more challenging. These hunts are made possible by various hunting clubs and individual land owners who support our organization.

Georgia Handicapped Sportsmen, Inc. has regularly scheduled skeet and trap shoots for members to enjoy who are physically able to participate in these events. Other members come to watch, enjoy friendship, the fellowship and social activities which has become a part of all our events.

Bass Tournaments are held at Lake Harding, Lake Black Shear, Lake Seminole, Lake Altoona and Lake Eufaula. Since these events are designed for individuals who like to compete, prizes and gifts are awarded. We are affiliate member of Georgia Wildlife Federation.

BIOSKETCH ON VANESSA ANDERSON

Vanessa Anderson has been employed as a Speech-Language Pathologist with Bartow County Schools for two years. She directs the communication program for the middle and high school students who participate in community based vocational training.

BIOSKETCH ON DONNA DUFF

Donna Duff is a teacher of middle school moderate and severely handicapped students. This is her first year of employment with Bartow County Schools. She teaches community skills and supervises students at vocational work sites within the community.

BIOSKETCH ON KIM KERR

Kim Kerr is a Speech-Language Pathologist with the Cobb County School District. She directs the communication program for high school students who participate in the Community Based Vocational Training Program.

BIOSKETCH ON KAYE LONG

Kaye Long is a teacher of moderate and severely handicapped students. She teaches in the community at sites selected for graduating seniors who are transitioning from school into the work environment.

COMMUNITY BASED VOCATIONAL INSTRUCTION FOR STUDENTS USING AUGMENTATIVE COMMUNICATION DEVICES

The school systems represented by this panel have varying approaches and are at different stages of providing communication services in conjunction with community based vocational instruction for students using augmentative communication devices. The services are provided using a team approach by the speech-language pathologist and teacher.

Each team will give a 30 minute presentation on the program adopted by their county. The counties represented will address the following outline in their presentations:

1. General description of school system (size, population, location, etc.)
2. Background on why and how model was selected.
3. Description of actual model used - from daily implementation to long term expectations.
4. Strengths and weaknesses from viewpoint of each team member.
5. Plans for the future.
6. Advice for the consumer - key points to explore or consider when implementing a model.

At the conclusion of the team presentations, a thirty minute question and answer session will be opened to the audience.

BIOSKETCH ON JANET C. DUKE

Jan Duke began computer application training for Atlanta area firms and training centers in 1983. In 1988 she taught her first blind client, and in 1989 opened a training facility for physically challenged people located at the Advanced Technology Development on the Georgia Tech campus. The staff of SoftWord Services represents over 50 years of practical business experience.

COMPUTER-BASED TRAINING FOR OFFICE AUTOMATION AND CUSTOMER SERVICE POSITIONS

Overview

SoftWord Services provides computer-based training for people with visual, hearing and mobility impairments for professional, administrative, word processing and customer service representative positions. Office automation computer training is different from the training necessary for persons going into computer-related customer service representative positions. Computer keyboarding skills and adaptive software are required for both jobs.

Office Automation Training

The ability to use adaptive equipment and a thorough knowledge of the application program allows many people to be successfully employed in positions such as attorneys, medical transcriptionists and authors. Our training in these areas include a comprehensive program that involves the efficient use of the application software and procedures used in the field of interest.

SoftWord Services' graduates are using word processing applications in many ways. They use commands such as "merge from console" and macros to efficiently type many repetitive types of documents found in the business, medical and legal fields. This technology is used by both visually impaired administrative and clerical support staff to allow them to effectively compete with those not so physically challenged.

Customer Service Representative Training

Computer training for a company like Spiegel Catalog Sales involves familiarizing the student with data bases and the concepts of multiple screens and fields. SoftWord Services duplicated over twenty Spiegel screens in a PC data base program. The students become adept at keying in and retrieving information similar to the process used on the job giving them the ability to start on an equal footing with sighted coworkers when they enter the Spiegel training program.

Spiegel is an example of a company in Atlanta that has hired many visually impaired people to be customer service representatives. Personal computers with a magnification program emulate an IBM 3278 terminal. In addition, for people with very low vision, speech output is available to be used in conjunction with the magnification program to aid in easier screen reading.

Results

SoftWord Services works closely with Division of Rehabilitative Services' and private rehabilitation counselors in providing computer training and job placement for their clients. Over 90 percent of our graduates are currently employed in professional, administrative and computer-related positions.

A computer-based demonstration of our training methods will be given along with an opportunity for questions and answers.

VIDEO THEATER

VIDEO ON QUALITY OF LIFE

A general approach to problem solving for recreation and leisure for those with disabilities.

VIDEO ON SPECIAL FRIENDS AND COMPUTERS

This video introduces ways to adapt the computer for use with preschoolers.

VIDEO ON WE HAVE SOMETHING TO SAY

Children ranging in ages from 17 months to 22 years are shown using computers and assistive devices to communicate successfully.

VIDEO ON THAT MAKES US FRIENDS

This video stars a young boy with cerebral palsy who uses a wheelchair, an augmentative communication device and participants in the typical activities of a 5-8 year old.

VIDEO ON ACCESS

This video illustrates the many users of the computer in increasing the quality of life for children and adults with disabilities.

VIDEO ON INDEPENDENCE DAY

An introduction to the field of adaptive technology. This video relates first-hand how technology can literally change a life.

VIDEO ON MISTER ROBERTS

Taken from a 60 minutes; our keynote speaker discusses his philosophy toward ability and disability.

BIOSKETCH ON DR. THOMAS C. BURNS

Thomas C. Burns, Ph.D. has a degree in biopsychology from the University of Georgia and has been in clinical private practice for 15 years. Dr. Burns is a board certified medical psychotherapist, a certified biofeedback practitioner, a certified practitioner of Neuro-linguistic Programming, and has work study experience in the area of human factors with the United States Navy School of Aviation Medicine. Currently, Dr. Burns is a full-time consultant with Meadowbrook Rehabilitation Group, Atlanta, Georgia.

OUTLINE
VIDEO PRESENTATION ON ENVIRONMENTAL CONTROL & COMMUNICATION SWITCHES:
ASSESSMENT

I. Fundamentals of electrical switches

II. Interfacing

III. Patient Assessment

    A. Motor Assessment
    B. Sensory Assessment
    C. Cognitive Assessment

IV. Follow-up

VIDEO ON ENVIRONMENTAL CONTROL & COMMUNICATION SWITCHES:
ASSESSMENT

This video presentation would be helpful for occupational therapists, case managers, nurses, and anyone with the responsibility of interfacing clients with environmental control and communication devices. Many professionals dealing with such interfacing have not been provided in their academic careers with certain electronics and electro-mechanical fundamentals that permit full access to the increasingly sophisticated array of technology becoming available to challenged individuals. As a result, this technology is underutilized and the target population of clients is, therefore, deprived of freedom and benefits such technology offers. This tape is an effort to demystify one of the key areas of difficulty in the interface process-switch assessment.

The viewer is given information on the basic commonality of all switches so that more creative and customized use for interfacing devices can follow, resulting in a more successful match between client and technology. Assessment and follow-up techniques are also reviewed.

BIOSKETCH ON DIANE WHITEHOUSE

There is frequently a need to keep a wheelchair bound, lower limb amputee's residual stump extended and elevated. Various devices now in use are often awkward, unsafe or costly. This problem was recognized, addressed and solved through the design of a new device which has been incorporated, as an option, into a commercially available wheelchair line.

DEVELOPMENT OF WHEELCHAIR STUMP SUPPORTS FOR LOWER LIMB AMPUTEES

BACKGROUND

Elevation and extension of a lower limb amputee's residual stump is required to prevent fixed flexion contraction about the knee joint and to help reduce edema. Protection of sensitive stump ends is also desirable. There is however, a scarcity of available and suitable equipment to allow for convenient effective stump elevation.

The lack of appropriate wheelchair equipment was apparent by the number of inquiries received at Parkwood Hospital's Prosthetic and Orthotic Department during the past four years. Therapists, prosthetists, funding agencies, and vendors sought something better than that which is currently available. The search for more durable, safe and convenient-to-use stump supports led to the development of the new device described here.

Currently available devices are either designed for temporary use and not able to withstand prolonged use or are not convenient or safe. Some are not widely available to the Canadian market.

CURRENT DEVICES

Platforms:

Platforms are usually made of wood to fit on top of the wheelchair seat and contain either slide out or flip-up "trays" to support the stumps. They were designed for the temporary use of the convalescent amputee and are not very durable. A cushion is required for comfortable sitting on top of the board making the user ride high in the wheelchair. This often made wheeling and transfers difficult. To prevent knee flexion contractures, and equally thick cushion must be removed every time the tray is slid in or flipped down for transferring in or out of the wheelchair. These platforms are not attached to the wheelchair and therefore, are not very safe. A user can catapult himself onto the floor by simply shifting weight to the front half of the platform.

Mounted Platforms:

A variation of the above platform is made by mounting it onto suspension hooks which enable it to be attached to the wheelchair seat. However, seat and removable stump support cushions are still required. Extra equipment is inconvenient and therefore, the client probably would not use it.

CURRENT DEVICES CONTINUED:

Clamp-Ons:

This device is made and primarily marketed in the United States. It has a permanently attached padded support with varying angle and height adjustability and has the capability of being flipped down flat for front transfers or removed to fold up the wheelchair. However, the mechanisms are not easily reached by the user. It is also relatively expensive and not widely available to the Canadian market.

DESIGN CRITERIA

Before preliminary drawing began, a list of requirements was compiled as follows:

1. Eliminate the unsafe seat board.
2. Eliminate superfluous cushioning.
3. Provide height adjustability if a seat cushion is used.
4. Provide angle adjustability to provide various degrees of knee flexion.
5. Must be "user friendly" equipment for greater personal independence.
6. Must be an unobtrusive and natural looking piece of equipment.
7. Must be easily obtainable and cost effective.

After several design drawings, it became clear that standard wheelchair equipment parts, modified for this special purpose, were in every way the most suitable for meeting all design criteria. Canadian Wheelchair Manufacturing Company was approached because the design of their equipment was most easily adapted. It also enjoyed a broad national market. They were most helpful in accepting the concept, in manufacturing prototypes and suggesting and making design improvements.

DESIGN DESCRIPTION

The wheelchair stump support consists of a modified elevating leg rest mechanism. The stump support pad is attached to this mechanism in such a way as to allow the pad proximal alignment with the seat front, whatever its angle.

The angle adjustment mechanism is situated outside the wheelchair upright bars and at a height convenient for self operation by the user; as is the locking mechanism handle which when released, allows the stump pin support to be swung away laterally or removed. The pin on which the stump support pivots, is high enough to provide simple user operation while in the wheelchair. The stump support is also height adjustable, should a seat cushion be used.

CONCLUDING REMARKS

Ongoing field testing by residents of Parkwood Hospital has provided very satisfactory results so far. User, caregiver, and provider response has been positive and good feedback is providing the opportunity for future design improvements.

The wheelchair stump support is expected to be offered a standard accessory on the new "MAGIC" wheelchair line which is manufactured by Canadian Wheelchair widely distributed by many dealers across Canada.

BIOSKETCH ON ZEKE ISAACS

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BIOSKETCH ON J. C. HARTLEY

I am J. C. Hartley, 75 years old; hearing impaired and an active advocate striving to get a better tomorrow for the hearing impaired. I have published in various newspapers and magazines, numerous articles related to hearing. I have also produced three, one hour television programs on coping with hearing impairment.

COPING WITH HEARING IMPAIRMENTS

That invisible handicap, hearing impairment, can count over 24,000,000 Americans who have problems communicating in the normal way. Communication being one of the most used and important aspects of our every day life, it is of great importance to us. Difficulty in communication can cause problems in our home life, problems in the work place, and put a limit on our social activities.

Often times the deaf and hearing impaired have seen fit to completely withdraw or ignore the normal activities of life and lead a life of isolation. This is not good for the person nor their family or friends. This can lead to depression and in some instances be a threat to life itself. With knowledge and understanding it may be possible to avoid these conditions.

It is essential that the deaf and hearing impaired and their families be knowledgeable and understanding of the problems of the hearing impaired. They must be well informed as to the services and assistive devices that are available for their use. They must also accept the fact that no one service or device can solve all of the problems and in many cases it will take numerous things to make a difference.

Too many people think that a hearing aid is the only thing that is available and that it is all that is needed. Without the various assistive devices the hearing impaired could live a very dull and lonesome life.

Through space age technology and the discovery of the transistor, the development of many new items to assist the hearing impaired have been developed. These developments together with the big increase in service and self help organizations, many of the people with a hearing disability have been able to reach their goal of independent living.

Medical science has played an important part in improving the lifestyle of the hearing impaired. Perhaps the most notable of these is the cochlear implant. This is an implant into the inner ear that enables the person to understand the sounds around them. Also microscopic surgery has helped the doctors perform operations that were not possible in the past.

Assistive devices have been mentioned several times. What are assistive devices and what do they do? There are many kinds of devices that do numerous things for those who cannot hear.

Let us start with the telephone, one of the most used devices in communication. Yet, the hearing impaired have problems quite often with the telephone. There are many assistive devices that can be used with the phone.

A light may flash to let you know that the phone is ringing. A volume control may be on the receiver, or you may attach a device that will give you greater amplification. There are several of these on the market. If one of these works, there is the TDD/TTY that allows you to type your message and receive a printout of the reply. In the near future there will be a dual party relay system that will let you communicate with any phone and not just with another one with a TDD/TTY.

Television is perhaps the most popular entertainment in homes today. However, the hearing impaired cannot enjoy nor understand television at the sound level that is comfortable to other members of the family. Closed caption decoders allow the deaf and hearing impaired to read a print out of the dialogue on the television screen of the programs that are closed captioned. Private listening devices can also be installed that will allow the use of earphones.

Lights also play an important part in alerting the hard of hearing. Lights can let you know when the door bell rings or can tell you that it is time to get up.

The above are just a few of the most used devices that we find in homes. These devices together with others make independent living a possibility for the hearing impaired.

There is also assistance in places of public assembly churches and theaters. Auditoriums can install one of many systems that can be used by the hearing impaired so that a better understanding of what is taking place can be achieved.

With proper information and a better understanding of their problems, the hearing impaired can and must have a better tomorrow.

BIOSKETCH ON PATRICIA JOYCE

Rehabilitation and Education for Adults and Children (REACH) is committed to providing quality comprehensive habilitation and education programs and services for adults, children and their families with special needs.

The Program Staff, comprised of physical and occupational therapists, speech and language pathologists, behavior specialists, early intervention educators, social workers, and nurses, in conjunction with family members, constitute the Transdisciplinary Team that performs the arena assessments and develops the IFSP.

As Program Coordinator, with training and experience in both early education and speech and language pathology, it is my responsibility to ensure the coordination of all services at REACH to provide an exemplary IFSP model.

MODEL IFSP PROCESS FOR INFANTS AND TODDLERS AT RISK

Public Law 99-457, the Education of the Handicapped Act Amendments of 1986, Part H, directs states "to develop and implement a state wide, comprehensive, coordinated, multi-disciplinary, interagency program of early intervention services for the handicapped infants and toddlers and their families".

Part H requires the development of an Individualized Family Service Plan (IFSP), the purpose of which is to identify and organize formal and informal resources to facilitate families' goals for their children and themselves.

Since infants and toddlers are uniquely dependent upon their families for their survival and nurturance, a family-centered approach to early intervention is essential. Family/professional collaboration and partnerships must flourish to ensure effective family centered early intervention and successful implementation of the IFSP process.

To meet the diverse and complex needs of infants and toddlers with special needs and their families, a team approach to child assessment, then planning and implementing of the IFSP is necessary.

During the past year, the Program Staff at REACH has been developing a model IFSP process. The components of this process, which include gathering, sharing and exchanging information between families and the REACH Staff, are sequential.

Presenters of the program model will review the process and content of the IFSP. A discussion of the key activities including the first contacts between a family and early intervention services; the assessment planning (Pre-Arena); the child assessment (Transdisciplinary Family Centered Arena Assessment, to establish current levels of physical, cognitive, speech and language, and psycho-social development, and self help skills); identification of family strengths and needs (Family Needs Scale); development of outcomes to meet child and family needs; implementation of the IFSP (Data Collection); and formal and informal evaluation of the IFSP (Review and Family Satisfaction Survey) will follow.

A video of a toddler and family, photographed during the intake process, arena assessment, outcome development and follow-up proceedings will be included in the presentation.

EXHIBITORS

1991 Touch The Future Conference

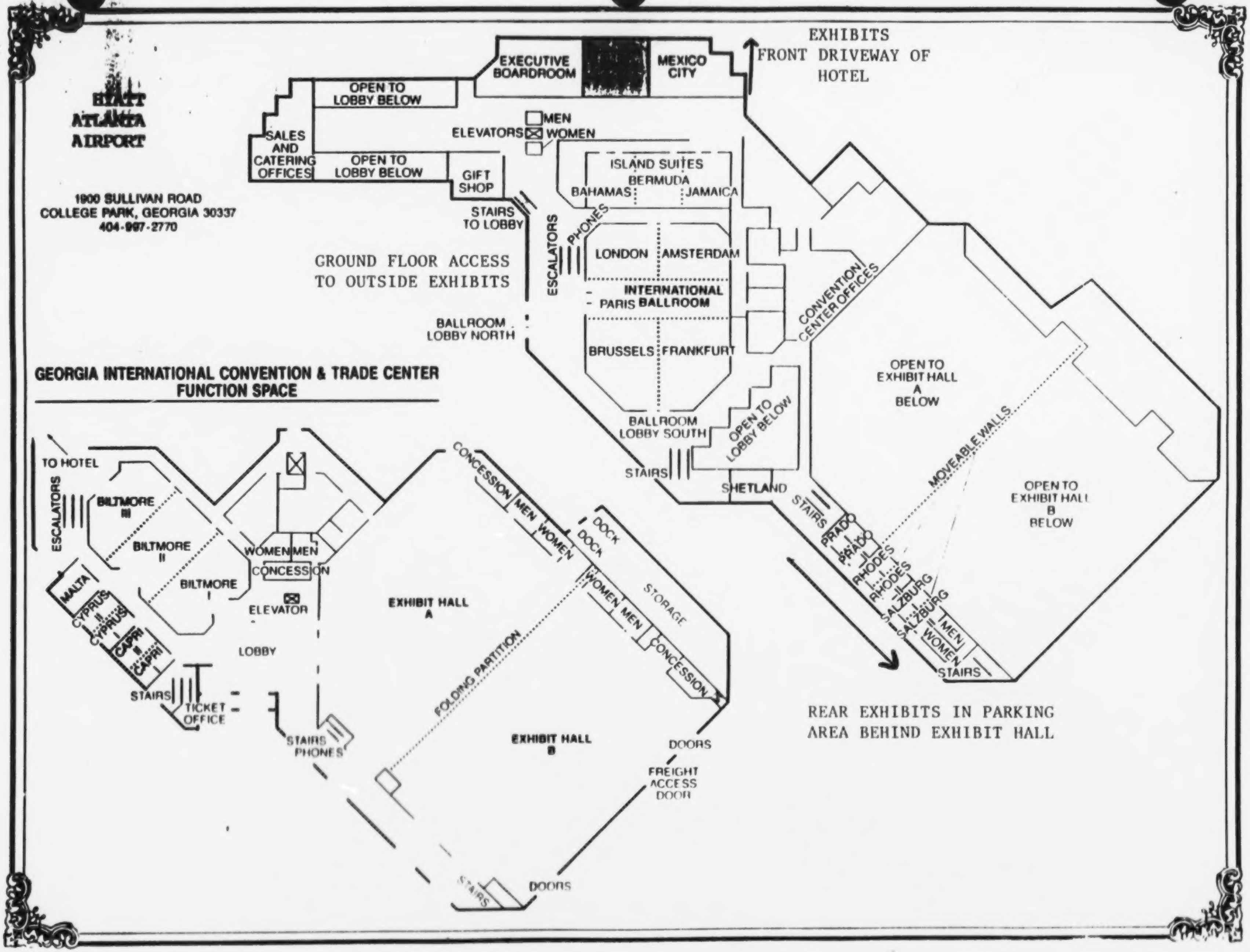
Exhibitors at the Conference

Exhibitors:	**Booth Number**
Adaptive Communicative Systems, Inc. P. O. Box 12440 Pittsburgh, PA 15231 (412) 264-2288 Contact: Susan Stewart, Coordinator	21-22
Al Squared 1463 Hearst Drive, N.E. Atlanta, GA 30319 (404) 233-7065 Contact: Ben Weiss, President	11
American Rehab, Inc. 5865-D Oakbrook Parkway Norcross, GA 30093 (404) 662-5242 Contact: John Sackett	1 (Also Back and Front of Hotel)
B & W Handicap Equipment, Inc. 137 Bethea Road, Suite 707 Fayette, GA 30214 (404) 460-1909 Contact: Bud Brewer	(Back of Hotel)
CRT, Inc. 490 Tenth Street, N.W. Atlanta, GA 30332-0156 (404) 876-8580 Contact: Tom Gannaway, Exec. V.P.	5
Dunamis, Inc. 3620 Highway 317 Suwanee, GA 30174 (404) 932-0485 Contact: Albert Rudnik, V.P. Sales	9
Edmark Corporation P. O. Box 3903 Bellevue, WA 98009 (206) 746-3900 (800) 426-0856 Contact: Gale Sevener, Sales Representative	2

Exhibitors:	**Booth Number**
Enabling Technologies 3102 S.E. Jay Street Stuart, FL 34997 (407) 283-4817 Contact: Kathy A. Petruff, Marketing Administrator	20
Georgia Sensory Rehabilitation Center 1568 Willingham Drive, Suite F-200 College Park, GA 30337 (404) 669-3450 Contact: Coletta M. Smith	12
Handicapped Driver Services 837 Liberty Hill Road Marietta, GA 30066 (404) 422-9674 Contact: Michael Dresdner	10 (Also Back of Hotel)
Handicaps Mobility System, Inc. 5865-C Oakbrook Parkway Norcross, GA 30093 (404) 662-5242 Contact: John Sackett	1 (Also Back and Front of Hotel)
Humanware, Inc. 761 Peachtree Street Atlanta, GA 30308 (404) 876-2636 Contact: Belen B. Hickman	6
IBM National Support Center for Persons with Disabilities P. O. Box 2150 Atlanta, GA 30301-2150 (404) 238-4642 Contact: Theodore J. Drazuk	23-24
J.M.D. Associates Mastervoice 824 Post Road Circle Stone Mountain, GA 30088 (404) 469-7024 Contact: J. Marc Ducharme, President	17

Exhibitors:	Booth Number
Key Technologies P. O. Box 1997 Morganton, NC 28655 (704) 433-5302 Contact: Ken Whitley, Owner	3
Mark F. Goodkin and Associates 4918 Shamrock Court, S.E. Mableton, GA 30059 (404) 944-8226 Contact: Mark Goodkin, President	15
Mobility Services, Inc. 761 Peachtree Street Atlanta, GA 30308 (404) 876-2636 Contact: Belen B. Hickman	7
Mons International 6595 Roswell Road, #224 Atlanta, GA 30328 (404) 551-8455 Contact: Wendy Mons, President	13
Phonic Ear, Inc. 9140-L Guilford Road Columbia, MD 21046 (800) 638-2680 Contact: Marianne Conners, Secretary	14
Prentke Romich Company 1022 Heyl Road Wooster, OH 44691 (800) 262-1984 Contact: Linda Repp	16
R & R Van Lift 1500 Farmer Road, Bldg. H Conyers, GA 30207 (404) 483-0767 Contact: Randy Wilson, President	4

Exhibitors:	**Booth Number**
Roosevelt Warm Springs Institute for Rehabilitation P. O. Box 1000 Warm Springs, GA 31830 (404) 655-2760 Contact: William A. Tomlin, Community Resource Development	19 (Also Back of Hotel)
SoftWord Services, Inc. 430 Tenth Street, N.W. Suite N-204 Atlanta, GA 30318 (404) 881-0653 Contact: Janet C. Duke, President	8
Telesensory Systems 7002 Oakview Circle Tampa, FL 33634 (800) 780-7667 Contact: Vinnie Rappa	15
Words +, Inc. P. O. Box 1229 Lancaster, CA 93584 (800) 869-8521 Contact: Ginger Woltosz, V.P.	18



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COLLEGE PARK, GEORGIA 30337
404-997-2770

GEORGIA INTERNATIONAL CONVENTION & TRADE CENTER FUNCTION SPACE

EXHIBITS FRONT DRIVEWAY OF HOTEL
GROUND FLOOR ACCESS TO OUTSIDE EXHIBITS
REAR EXHIBITS IN PARKING AREA BEHIND EXHIBIT HALL
EXECUTIVE BOARDROOM
MEXICO CITY
OPEN TO LOBBY BELOW
SALES AND CATERING OFFICES
OPEN TO LOBBY BELOW
ELEVATORS
MEN
WOMEN
GIFT SHOP
STAIRS TO LOBBY
ISLAND SUITES
BERMUDA
BAHAMAS
JAMAICA
PHONES
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STAIRS
SHETLAND
OPEN TO EXHIBIT HALL A BELOW
MOVEABLE WALLS
OPEN TO EXHIBIT HALL B BELOW
STAIRS
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BILTMORE II
BILTMORE I
MALTA
CYPRUS II
CYPRUS I
CAPRI II
CAPRI I
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LOBBY
WOMEN
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ELEVATOR
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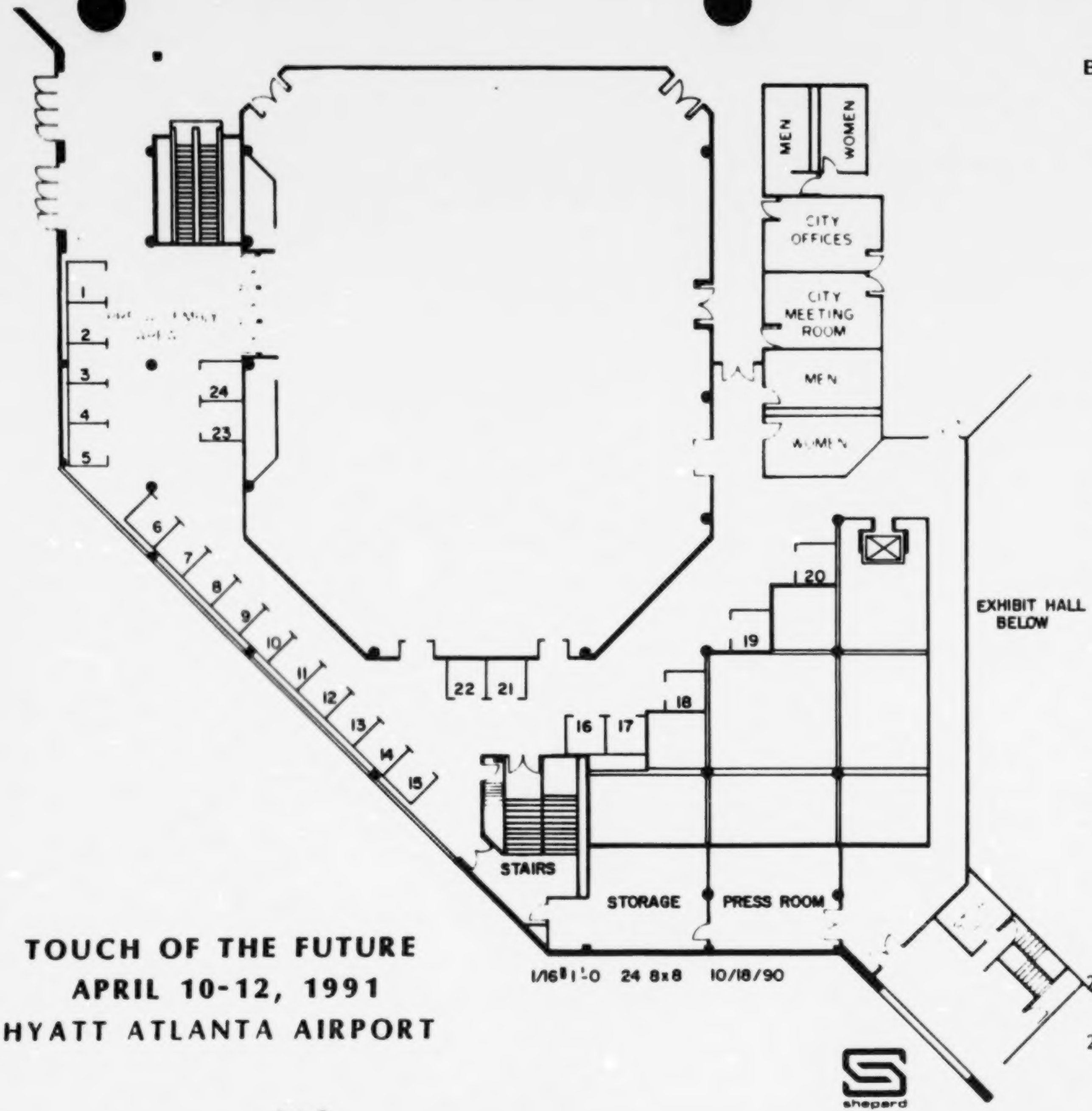
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TOUCH OF THE FUTURE
APRIL 10-12, 1991
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2	Edmark Corporation
3	Key Technologies
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5	CRT, Inc.
6	Humanware
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9	Dunamis, Inc.
10	Handicapped Driver Services
11	AI Squared
12	GA Sensory Rehab Center
13	Mons International
14	Phonic Ear
15	Mark Goodkin & Assoc. Telesensory Systems
16	Prentke Romich Company
17	J.M.D. Associates Mastervoice
18	Words +
19	Roosevelt Warm Springs Institute for Rehab (also at the back of the hotel)
20	Enabling Technologies
21-22	Adaptive Communication Systems, Inc.
23-24	IBM National Support Center for Persons With Disabilities
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ACKNOWLEDGMENTS

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The Conference Committee gratefully acknowledges the contributions and support of the many individuals, organizations and businesses that have made Touch The Future possible.

Special thanks to the following companies for their generous donations towards the special events that you are enjoying at the conference:

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The Program Committee thanks each and every presenter for their part in the 1991 Touch The Future Program. Each of you has had a part in "***touching the future***" of individuals who will benefit from assistive technology in the next decade. Thanks to each of you. It is been a pleasure to work with you.

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